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ICAMCCT 2021 PROCEEDINGS

International Conference on ADVANCES IN MATERIALS, COMPUTING AND COMMUNICATION TECHNOLOGIES

ICAMCCT - 10th April, 2021

Organized by

ANNAI VAILANKANNI COLLEGE OF ENGINEERING

AVK Nagar, Pottalkulam, Kanyakumari District.

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai, India.

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MESSAGE FROM THE CHAIRMAN

Annai Vailankanni College of Engineering (AVCE) is an institution where students are trained not only to equip themselves with knowledge but also to develop their inbuilt skills. Our aim is to provide education to one and all, especially for the rural community. AVCE always aim at providing quality education: social moral value based and need-based education to the students and at empowering the local community.

This International Conference on International Conference on Advances in Materials, Computing and Communication Technologies (ICAMCCT 2021) fits with the mission of AVCE to explore the new horizon of innovations from distinguished researchers, scientists, and eminent authors in academia and industries. We believe that researchers and practitioners, coming together for such conferences can advance the quality of education received by students worldwide.

Dr.D.PETER JESUDHAS,
Chairman,
Annai Vailankanni College of Engineering,
AVK Nagar, Azhagappapuram Post,
Kanyakumari District-629 401.

MESSAGE FROM THE VICE-CHAIRMAN

It is our great pleasure to announce the "International Conference on Advances in Materials, Computing and Communication Technologies" (ICAMCCT 2021) to be held in Annai Vailankanni College of Engineering (AVCE), AVK Nagar, India on April 10, 2021. ICAMCCT 2021 will explore the new horizon of innovations from distinguished researchers, scientists, and eminent authors in academia and industry working for the advancements in Science, Engineering and Technology from all over the world.

The conference will create a path to establish a research relation for the authors and listeners with opportunities for National and International collaboration and networking among the universities and institutions from India and abroad for promoting research and developing technologies. Authors are solicited to contribute to the conference by submitting articles that illustrate research results, projects, surveying works and industrial experiences that describe significant advances in Materials, Computing and Communication Technologies.

Er.P.PRAVEEN JESUDHAS,
Vice-Chairman,
Annai Vailankanni College of Engineering,
AVK Nagar, Azhagappapuram Post,
Kanyakumari District-629 401.

MESSAGE FROM THE PRINCIPAL

I am extremely glad to announce that the ICAMCCT-21,AVCE is going to organize the International Conference on Advances in Materials, Computing and Communication Technologies on 10th April 2021.I express my sincere gratitude to Dr.D.Peter Jesudhas, Chairman, AVCE who inspired and guided us all the way in organizing this International conference. I believe strongly that this conference will provide an effective platform for researchers to share their innovative ideas and present their up to date findings in engineering field. On behalf of AVCE, I heartily welcome all the speakers and delegates to this conference.

Dr.A.BENHAM,
Principal,
Annai Vailankanni College of Engineering,
AVK Nagar, Azhagappapuram Post,
Kanyakumari District-629 401.
Email-id: principal@avce.edu.in

MESSAGE FROM THE VICE PRINCIPAL

I am pleased to welcome you all for this International Conference on Advances in Materials, Computing and Communication Technologies (ICAMCCT 2021). The need of research is ever expanding as we continue to explore our universe and progress through industrial revolutions. Collaboration is very much important among researchers to leverage research and to grow the scientific temper. This conference serves as a platform for scientists, engineers, academicians and students to discuss about their research and present their new findings.

As the title of the conference reflects, it focuses on three major research areas; materials, computing and communication. Industry 4.0 tends to connect billions of devices to internet which poses new challenges in communication. It also demands smart autonomous systems which require innovation in computing technologies. Advanced materials rather than traditional materials are needed to envisage modern systems. I am glad that this conference has got overwhelming response despite this pandemic situation. Over 300 research articles are to be presented in this conference.

We are privileged that we have got a wonderful array of speakers with great technical expertise in the above mentioned topics. I extend my deep gratitude to the convener, coordinators and the publishers for striving hard to make this conference a fruitful one for all of us. I assure that this conference will provide its attendees technically rewarding experience and great networking opportunities. I wish this conference a grand success.

Dr.G.Gaswin Kastro,
Vice Principal & HOD/ECE,
Annai Vailankanni College of Engineering,
AVK Nagar, Azhagappapuram PO,
Kanyakumari District – 629401.
E mail ID: gaswin-ec@avce.edu.in

MESSAGE FROM THE CONVENER

It is my great pleasure to serve as conference convener for the International Conference on Advances in Materials, Computing and Communication Technologies (ICAMCCT 2021), organized by the Annai Vailankanni College of Engineering, AVK Nagar, Kanyakumari District, Tamil Nadu, India.

The theme around Materials, Computing and Communication Technologies is purposely broad so that we could have an eclectic array of papers ranging over a variety of themes including such topics as innovative research practices, advanced technologies, and more.

I hope during your time at the conference that you take the opportunity to engage with your peers to discuss your ideas for research and practice and that you ask questions of the presenters. There will be plenty of opportunities for collaboration. We will all benefit from our combined participation at this International Conference.

More information about ICAMCCT 2021 and our programs can be obtained from our website (www.avce.edu.in).

Conference convener ICAMCCT 2021,
Dr.J.SUNIL,
Dean (Research) & HOD/Mech,
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- Immediate rejection of the infringing paper.
- Immediate rejection of every other paper submitted to ICAMCCT 2021 by any of the authors of the infringing paper.

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ICAMCCT_101: EFFECT OF CALCIUM OXIDE NANO ADDITIVE DISPERSION ON LUBRICATING PROPERTIES OF BIO-OIL

Abison James W [1], Vignesh J [2], Sunil J [3], Simon Christopher A [4], Mohamed Shameer P [5].

[1] Aircraft Maintenance Engineering, Alpline Institute of Aeronautics, Dehradun.
[2,4&5] Department of Mechanical Engineering, V V College of Engineering, Tisaiyanvilai, Tirunelveli District, Tamilnadu.
[3] Department of Mechanical Engineering, Annai Vailankanni College of Engineering, Pottalkulam, Kanyakumari District, Tamilnadu.

Abstract **-** Reduction of friction in mechanical systems is very important for sustainable future. This study addresses on the study of the lubricating properties of nano calcium oxide bio -lubricants which are formulated by dispersing 0.5 wt% and 1 wt% of nano calcium oxide particles in easily available Bio lubricant oil through a standard two-step method. The chemical composition of CaO is identified by Energy Dispersive Spectroscopy (EDS) and their microstructure is analyzed by Scanning Electron Microscope (SEM). The dispersion stability of nano calcium oxide bio-lubricants is estimated by gravity driven sedimentation test, Thermal stability is determined by Thermo Gravimetric Analysis (TGA) and Differential thermal analysis (DTA). The Chemical stability is determined by Fourier-transform Infrared Spectroscopy (FTIR). Further, lubricating properties such as theoretical viscosity, Flash and fire point are also estimated.

ICAMCCT_113: A REVIEW ON THE AUTOMOTIVE SMART MEMORY MATERIALS

V. Velkumar[1], V.Sujith[1], R.Rathina Sundaram[1], R. Udaya Kumar[1]

[1] Department of Mechanical Engineering, V V College of Engineering, Tisaiyanvilai

Abstract **-** Smart materials are lifeless materials that assimilate distinct functions such as sensing, actuation, logic and control to adaptively react to alterations in their environment to which they are exposed, in a constructive and mostly recurring way. Thermo-responsive materials such as shape memory alloys or shape memory polymers are smart materials which change their shape with alter in temperature. Shape memory alloys also help remove unwanted mass, which can help improve vehicle performance and fuel economy. The wire actuator used on the new Corvette is approximately 1.1 pound (499 grams) lighter than a conventional motorized system. In this study, significant characteristics of various smart memory materials are discussed.

ICAMCCT_102: STUDY OF MECHANICAL AND CHEMICAL RESISTANCE PROPERTIES OF NATURAL FIBER REINFORCED POLYMER COMPOSITES

J. Vignesh[1], B. Jeno Rufus[2], V. Esai Ganesh[2], K. Ajay Kannan[2], A. Jelestin[2].

1&2 Department of Mechanical Engineering, V V College of Engineering, Tisaiyanvilai, Tirunelveli District, Tamilnadu.

Abstract - The natural fiber-reinforced polymer composite is rapidly growing both in terms of their industrial applications and fundamental research. They are renewable, cheap, completely or partially recyclable and biodegradable. The natural fibers are classified into three types, they are plant fiber, mineral fiber and animal fiber. In our project we are using plant fibers that are palm fruit fiber and coconut shell powder. It normally grows in tropical, subtropical and temperate regions of the world. These fibers are characterized by low density, high density and high moisture absorbency in comparison with other leaf fibers. These fibers are long and biodegradable. The resin is used in fiber-reinforced composite is polyester. The polyester based resins have good compatibility with other synthetic resins such as alkyds, epoxies chlorinated rubber, phenolic etc., It gives 100% Solid with Fast Setting Properties, Enhance the color, stability, gloss and drying properties, Eco-Friendly Product. This work discusses the mechanical and chemical resistance properties of palm fiber and coconut shell powder reinforced polymer composites taken in various proportions by weight percentage. In addition, the failure of the composites between the rivets is also evaluated.

Keywords*:* Palm fiber, Coconut Shell Powder, Polyester resin, Mechanical Properties, Chemical Properties and Riveted joints.

ICAMCCT_114: DESIGN AND DEVELOPMENT OF SHAPE MEMORY ALLOY COIL SPRINGS FOR PNEUMATIC ACTUATORS

V. Kesavapandi[1], Jonish Selva Singh W[1], Lijolin T[1], Jeganathan M[1]

[1]Department of Mechanical Engineering, V V College of Engineering, Tisaiyanvilai

Abstract - A shape-memory alloy is an alloy that can be deformed when cold but returns to its pre-deformed shape when heated. When this alloy is in below transformation temperature it undergoes low yield strength and will deform easily into any new shape which it will retain. These special materials kept on being developed for intensify the accomplishment as per the need for the engineering field.

.Super elasticity is obtained in a limited temperature range just above its transformation temperature; heating is not required for getting un deformed shape to recover and exhibits enormous elasticity. In this paper, the concept and mechanism of shape memory materials are revealed.

ICAMCCT_103: MECHANICAL AND TRIBOLOGICAL PROPERTIES OF CU-W COMPOSITES FABRICATED BY POWDER METALLURGY METHOD

A.Simon Christopher[1], M.Muthu Bharathi[2], D.Mutharasan[2], S.Vigneswaran[2], S.Muthu Venkatesh[2], T.Albert[1]

[1&2] Department Of Mechanical Engineering, V V College Of Engineering, Tisaiyanvilai, Tirunelvelli.

Abstract **-** In this study, a Tittanium (W) reinforced copper based Metal Matrix Composites (MMCs) manufactured by powder metallurgy method and tribological behavior of compacted composites were investigated. Tittanium reinforcement was selected at different ratio from 5%wt to 20%wt. Powders was compacted under 750 MPa pressure in a die with cold pressing method. Sintering of the samples was performed at 1 hour under Ar gas atmosphere at 950 °C. The composites samples are taken tests like optical microscopy and field emission scanning electron microscopy,wear Test and Hardness. Tribological tests were performed by using a computer aided pin-on-disc experimental setup under dry sliding conditions.And wearing surfaces were investigated in a Scanning Electron Microscope SEM and mechanisms of the wear were detected. In addition to that tribological behavior and porosity properties of the manufactured samples were investigated.

Key words: Copper, Tittanium , Powder Metallurgy

ICAMCCT_106: GRAPHENE BASED ADMIXTURE FOR REINFORCEMENT OF CONCRETE

M. Dharanidharan[1]

[1]Department of Nanoscience & Technology, K.S. Rangasamy college of Technology, Tiruchengode.

Abstract **-** Graphene is a single layer of atoms arranged in a two-dimensional honeycomb lattice. There are about 3 million layers of graphene in 1 mm of graphite. The use of graphene admixtures can increase strength, reducing carbon footprint, and potentially increase longevity of products. Its great potential consists in transferring its unique features to the materials where it is used. And the building field could not be omitted. The high traction and tearing resistance of graphene make of it the "ideal additive" for cement and concrete. Even though Graphene has amazing properties and is eco-friendly, but it is not commercialized due to its production cost and extensive manufacturing set-up. In this project, the method of production is done in few steps to reduce the energy and using easily available chemicals, hence can be scalable. The graphene produced in this project is used in the development of an admixture for concrete to enhance its properties and characterization.

ICAMCCT_107: AN EFFICIENT ID-BASED SIGNATURE SCHEME IN WIRELESS SENSOR NETWORKS

S.Ninisha Nels[1], J.Amar Pratap Singh[2],

[1&2] Department of Computer Science and Engineering,Noorul Islam Centre for Higher Education, Kumaracoil, Tamilnadu,India

Abstract **-** Wireless Sensor Networks (WSNs) is a technology which consist of spatially distributed autonomous device using sensor for remote monitoring nodes. The transmission of data that dissipate energy. Wireless sensor network are the networks with constrained resources with regard to communications capabilities, memory, computing power, and energy. However, the data aggregation in WSN becomes a very essential issue because of the vitality obsessive for sending and receiving information. Nodes suffers from expensive usage of energy during signing verification, authorization authentication etc, The aggregate result has no way to gain the original data due to the non-availability of prediction algorithm. The transmission of data easy compromise by data intersection and data tampering of data. Data aggregation technique is considered as a Holy Grail to reduce energy consumption for WSNs. However, the technique still has the inherent security problems, such as eavesdropping, reply attacks, data forge and data tampering, etc. Hence, designing a secure and efficient data aggregation method is very significant for WSNs. Secure data aggregation scheme is used to end to end data security, data aggregation and energy. In order to achieve data aggregation novel prediction mechanism algorithm has been proposed by means of Tri-Model Least Mean Square Filter.

Keywords: Wireless Sensor Network (WSN), Secure data aggregation, Data transmission, Verification, Authorization, Energy, Least Mean Square (LMS).

ICAMCCT_120: POLYAMIDE THIN FILM AS A BENZENE DETECTOR FOR OPTICAL SENSOR Tharani.B[1]

[1]Nanoscience and Technology,K.S.Rangasamy College of Technology, Tiruchengode

Abstract **-** Polyamide is a polymer which has high flexibility, toughness and transparency. Polyethylene glycol(PEG) is soluble in water and organic solvents like Benzene,Carbon tetrachloride and chloroform.PEG also has a pore forming agent and its presence in the casting solution assists the formation of more pores on the membrane surface. Benzene is immiscible in water but soluble in organic solvents. Polyamide thin film is prepared by Dip coating method and it has a benzenedetecting property.The prepared polyamide thin film is used in the optical sensors.

ICAMCCT_108: ADEQUATE DESIGN OF BREAST CANCER CLASSIFICATION USING MACHINE LEARNING

Ajni K Ajai[1], A.Anitha[2]

[1&2]Department of Computer Science and Engineering,Noorul Islam Centre for Higher Education,Tamil Nadu, India

Abstract **-** Breast cancer is one of the most common cancers among women worldwide, representing the majority of new cancer cases and cancer-related deaths according to global statistics, making it a significant public health problem in today's society. The early diagnosis of BC can improve the prognosis and chance of survival significantly, as it can promote timely clinical treatment to patients. Further accurate classification of benign tumors can prevent patients undergoing unnecessary treatments. Thus, the correct diagnosis of BC and classification of patients into malignant or benign groups is the subject of much research. Because of its unique advantages in critical features detection from complex BC datasets, machine learning (ML) is widely recognized as the methodology of choice in BC pattern classification and forecast modelling. This analysis aims to observe which features are most helpful in predicting malignant or benign cancer and to see general trends that may aid us in model selection and hyper parameter selection. The goal is to classify whether the breast cancer is benign or malignant. To achieve this, using machine learning classification methods to fit a function that can predict the discrete class of new input.

Keywords: Breast cancer, Machine learning, Prediction, Supervised learning.

ICAMCCT_109: RECENT TRENDS IN TREATMENT OF PEDIATRIC ACUTE LYMPHOBLASTIC LEUKEMIA

G.Mercy Bai[1], Dr.P.Venkadesh[2]

[1] Research Scholar, Department of Computer Science Engineering, Noorul Islam Center For Higher Education, Thuckaly,Kumaracovil,Tamilnadu.

[2] Assistant Professor, Department of Computer Science Engineering, Noorul Islam Center For Higher Education, Thuckaly,Kumaracovil,Tamilnadu

Abstract **-** Childhood acute lymphoblastic leukemia (also called ALL or acute lymphocytic leukemia) is a cancer of the blood and marrow. This type of cancer usually gets worse quickly if it is not treated. In a child with ALL, too many stem cells become lymphoblasts, B lymphocytes, or T lymphocytes. These cells are also called leukemia cells. These leukemia cells do not work like normal lymphocytes and are not able to fight infection very well. Also, as the number of leukemia cells increases in the blood and bone marrow, there is less room for healthy white blood cells, red blood cells, and platelets. This may lead to infection, anemia, and easy bleeding. The recent trends in treatment of Childhood acute lymphoblastic leukemia includes Physical exam and history, Complete studies, Bone and biopsy, Cytogenetic analysis Immunophenotyping, Lumbar puncture and Chest x-ray.

Keywords: ALL, Leukemia, Lymphoblast, Lymphocytes, Complete blood count, Bone Marrow.

ICAMCCT_111: EFFECTIVE HEART DISEASE PREDICTION BY IOT WEARABLE MEDICAL DEVICES USING DEEP BELIEF NETWORK

Fathima A Vellameeran [1], T.Brindha [2]

[1]Department of Computer Applications, College of Engineering, Vadakara,Kerala,India.

[2] Department of Information Technology, Noorul Islam Centre for Higher Education, Kumaracoil,India.

Abstract - Heart disease is one of the most significant causes of mortality in the world today. Prediction of cardiovascular disease is a critical challenge in the area of clinical data analysis. The amount of data in the healthcare industry is huge. Data mining turns the large collection of raw healthcare data into information that can help to make informed decision and prediction. This research aims to identify significant features and data mining techniques that can improve the accuracy of predicting cardiovascular disease. This paper introduces an Internet of Things-based medical devices for collecting patients' heart details . The information, which is continuously transmitted to the health care center, is processed using deep belief network (DBN). The deep learning method learns heart disease features from past analysis, and achieves efficiency by the effective manipulation of complex data. The performance of the system is evaluated based on characteristics such as f-measure, sensitivity, specificity, loss function, and receiver operating characteristic (ROC) curve. The DBN method and IoT-based analysis recognize heart disease with maximum accuracy with minimum time complexity ,effectively minimizing heart disease mortality by reducing the complexity of diagnosing heart disease.

Keywords: Internet of Things, prediction model, classification algorithms, feature selection, Deep learning, Deep Belief Network, heart disease prediction.

ICAMCCT_115: FUEL PRODUCTION & CURRENT GENERATION FROM WASTAGES

R. Prasanna rahul[1], S.Vijay[1], M. Muthusurya[1], S.Venkadaganesh[1]

[1]Department of Mechanical Engineering, V V College of Engineering, Tisaiyanvilai

Abstract - This is a complete study of wastages produced by the humans which are used to made various energies. The conversion of used plastic into energy is the recent trend by utilizing the waste plastics from landfills and e-waste. This work is projecting the advantages of waste plastic and degradable wastes. So, this process will be the emerging research in the future and also used to satisfy the energy needs of both developed and developing countries. Landfills are the source provider for this research process. The wastes are collected and separated as per the nature of waste. Plastics are taken as raw material for fuel preparation and the separated biomass are used for the electricity production. The fuel is extracted from the waste plastics through pyrolysis process and the electricity is generated in the common method. This effort will be helpful for human, to save our land from plastic coverage and also provide energy for our needs.

Key Words: Land pollutants, Landfill, E-Waste, Waste Plastics, Pyrolysis, Fuel, Bio-mass, Power, Energies

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ICAMCCT_121: EVALUATION OF STRUCTURAL AND PHYSIOCHEMICAL PROPERTIES OF ZN/NI NANOCOMPOSITE FOR IMPROVING CORROSION INHIBITION FOR INDUSTRIAL APPLICATIONS

M.Vijayaprakash[1], S.Surendhiran[1], N.Guruprasath[1], P.R.Senthilmurugan[1]

[1]Centre for Nano Science and Technology, K. S. Rangasamy College of Technology Tiruchengode, Tamil Nadu 637215, India

Abstract - Zn/Ni nanocomposite was prepared by Sol-Gel method. The prepared Zn/Ni nanocomposite was used to coat on the stainless steel (SS) by doctor's plate coating method. The enhancement of corrosion inhibition of SS plate by Zn/Ni nanocomposite coating was evaluated by linear sweep voltammetry under 3.5% NaCl and 1M HCl mediums. The structural, morphological and physiochemical properties of the prepared Zn/Ni nanocomposite was carried out by various techniques namely XRD, SEM, FTIR, XRF and XRD.The tafel plot revealing the improved corrosion inhibition of SS plate by Zn/Ni coating compared with bare SS plate. The Electrochemical impedance Spectroscopy (EIS) also confirms that the corrosion resistance was enhanced for the Zn/Ni nanocomposite coated SS plate in both NaCl and HCl mediums. Thus the prepared Zn/Ni nanocomposite could be used as a corrosion inhibitor in various industries.

Keywords: Zn/Ni nanocomposite, Linear Sweep Voltammetry, Corrosion Inhibitor.

ICAMCCT_119: A REVIEW ON THERMAL PERFORMANCES OF COOLING TOWERS

[1]M.Anish Thomson, [1]A.Abiram, [1]G.R.Jenish, [1]L.Jenish, [2]Dr.J.Sunil

[1&2]Department of Mechanical Engineering, Annai Vailankanni College of Engineering, Pottalkulam – 629401.

Abstract - Cooling towers are heat rejection devices used to transfer waste heat to the atmosphere through the cooling of a water stream. Cooling towers are mostly employed for cooling the circulating water used in power plants. A number of numerical and experimental studies have been done on the cooling towers. In this section, a summary of some valuable works is presented. The efficiency of natural draft dry cooling towers is affected by the wind velocity when its value is higher than a critical level that depends on their design and geometry. Therefore, using different types of windbreakers can decrease this undesired effect. In this study, the design and analysis of various cooling towers with consideration of different loads such as wind load, temperature load, self weight, seismic loads are discussed in detail.

ICAMCCT_122: ENHANCEMENT OF CORROSION RESISTANCE OF MILD STEEL PLATE USING ZN/TI NANOCOMPOSITE FOR INDUSTRIAL APPLICATIONS

N. Guruprasath[1], S. Surendhiran[1], V. Gowtham[2], M. Vijayaprakash[1] PR. Senthilmurugan[1]

[1] Centre for Nano Science and Technology, K. S. Rangasamy College of Technology Tiruchengode, Tamil Nadu 637215, India

[2] Centre for Nano Science and Technology, Pondicherry University Pondicherry - 605 014, India

Abstract **-** Zinc/Titania nanocomposite prepared by Sonication assisted Solid state reaction method. The prepared Zn/Ti nanocomposite has been employed to improve the corrosion resistance behavior of Mild Steels (MS) which are mostly used in sugarcane and paper making industries. The prepared samples were coated on MS plate using Doctor's blade coating technique and tested under sugarcane juice as an electrolyte. The physiochemical characteristics of the prepared Zn/Ti nanocomposite were evaluated by various characterization techniques such as X-ray diffraction (XRD), Fourier Transform Infrared Spectroscopy (FTIR), Scanning electron microscopy (SEM). The studies were undertaken to reveals the crystalline structure, adsorbance, bandgap and composition of the materials. The improvement of corrosion resistance of MS plate has been evaluated by Linear Sweep Voltammetry (LSV), electrochemical impedance spectroscopy (EIS). As from the obtained results, Corrosion resistance behavior of MS has been improved 85% by the prepared Zn/Ti nanocomposite coating on it. Thus the prepared Zn/Ti nanocomposite could be a potential candidate as corrosion inhibitor in various industries.

Key Words*:* Zn/Ti nanocomposite, MS plate, Linear Sweep Voltammetry, Improved Corrosion Inhibition.

ICAMCCT_123: A REVIEW ON THE THERMO-PHYSICAL PROPERTIES OF THE SMART FLUIDS

M.Dhayanithi Pooja[1], Dr.J.Sunil[2]

[1] SSN College of Engineering

[2] Department of Mechanical Engineering, Annai Vailankanni College of Engineering, Pottalkulam – 629401.

Abstract **-** Smart fluid (SF) is a liquid-based device with collective properties endowed by the cooperation of the dispersoid and dispersant phases, whose single agents or constituents enable the emergence of smart distributed functionalities such as information processing capabilities, self-powering and sensing capabilities. The inherent controllability of smart fluids has catalyzed broad-based research and development of many different systems including vehicle dampers, vibration control mounts, intelligent hydraulic systems, and smart robots. In this study, the thermo-physical properties of various smart fluids are discussed in detail.

ICAMCCT_125: STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF YTTRIUM (Y) DOPED LANTHANUM OXIDE (LA_2O_3) NANOSTRUCTURES BY SONOCHEMICAL METHOD

S. Karthikeyan[1, 2*], K. Dhanakodi[1], S.Surendhiran[3],P.Thirunavukkarasu[2]

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Abstract **-** In this present study, $La_{1-x}Y_xO_3$ nanostructured powders were synthesized by sonochemical method and calcinated at 500°C. Phase composition of the nanostructures depends on the value of x. The effect of structural, morphological and optical properties of the Yttrium(Y) doped lanthanum oxide nanostructured powders was investigated through several characterization techniques. Structural property of the nanostructured samples was analyzed by powder X-ray diffraction (XRD) technique and results revealed that pure hexagonal phase without any other impurities. Thermal property of the samples was investigated by thermogravimetric analysis (TGA). The morphology of the yttrium doped lanthanum oxide samples were evaluated by scanning electron microscope (SEM). The effect of quantum confinement and the shifts in optical bandgap were calculated from the PL spectra and UV–Vis spectra. The electrical property of the prepared samples was studied by electrochemical impedance spectroscopy. The vibrational properties of the bonds are further analyzed using Fourier transform infrared spectroscopy (FTIR) and results exposing the presence of functional group. The presented effort confirms that the prepared nanostructures may be suitable for fabricating efficient dielectric and sensor applications.

Keywords: Band gap, capacitor, dielectric, diode, lanthanum oxide, sensors, sonochemical.

ICAMCCT_126: IOT BASED FAULT DETECTION AND MONITORING FOR SOLAR PANEL

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Abstract **-** As technology is advancing, cost of renewable energy equipments is decreasing which has resulted in a massive increase in solar photovoltaic installations. Most of these installations act as auxiliary power source. A majority of these are installed in inaccessible locations – as close as a rooftop to as far away as a dessert. Hence they require sophisticated systems for remote monitoring of these installations using wide area networks. In this paper we will discuss a low cost IOT based Solar panel system which will make use of GSM module and a low cost to send the data measured at the production end on the internet, which can then be accessed anywhere on the globe. This will provide us real time information of the installation which will help us in its maintenance, fault detection and will give us a delivery message to site engineers of all the data at fixed intervals

ICAMCCT_128: TEXTURAL FEATURES FOR LIVENESS DETECTION AND MATCHING USING FUSION OF ECG ANDFINGERPRINT N

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Abstract - Fingerprint has been extensively used for biometric recognition around the world. However, fingerprints are not secrets and an adversary can synthesis a fake finger to spoof the biometric system. The mainstream of the current fingerprint spoof detection methods are basically binary classifier trained on some real and fake samples. While they perform well on detecting fake samples created by using the same methods used for training, their performance degrades when encountering fake samples created by a novel spoofing method. In this work, we approach the problem from a different perspective by incorporating ECG. Compare with the conventional biometrics, stealing someone's ECG is far more difficult if not impossible. Considering that ECG is a vital signal and motivated by its inherent liveness, we propose to combine it with a fingerprint liveness detection algorithm. The combination is natural as both ECG and fingerprint can be captured from fingertips. In the proposed framework, ECG and fingerprint are combined not only for authentication purpose but also for liveness detection. In proposed system a novel method for fingerprint liveness detection using LNDP.This proposed system proposes a fusion of fingerprint and ECG that fills the gap between these two sides. We have performed extensive experiments on LivDet2015 database which is presently the latest available liveness detection database and compare the proposed method with six liveness detection methods as well as twelve participants of LivDet2015 competition. The proposed system scored consistently low EER which were not observed in the existing method.ACE rate significantly gain performance in proposed system.

ICAMCCT_127: DESIGN AND FABRICATION OF SOLAR GRASS CUTTER

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Abstract - Now-a-days, there are plenty of options starting from the simplest push along mower to the most advanced electric grass cutting machine. According to world energy report, we get around 80% of our energy from conventional fossil fuels like oil (36%), natural gas (21%) and coal (23%). It is well known that the time is not so far when all these sources will be completely exhausted. So, alternative sources should be used to avoid energy crisis in the nearby future. The study aims at fabricating a grass cutting machine with which makes cutting of grass based with the use of solar power and motor. Power plays a great role wherever man lives and works. The living standard and prosperity of a nation vary directly with the increase in the use of power. The electricity requirement of the world is increasing at an alarming rate due to industrial growth, increased and extensive use of electrical gadgets. To overcome this problem we go for solar power.

ICAMCCT_132: PREDICTION AND EARLY AVOIDANCE OF FLOOD BASED ON IOT

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Abstract - Floods are the most damaging natural disaster in this world. On the occasion of heavy flood, it can destroy the community and killed many lives. The government would spend billions of dollars to recover the affected area. It is crucial to develop a flood control system as a mechanism to reduce the flood risk. Providing a quick feedback on the occurrence of the flood is necessary for alerting resident to take early action such as evacuate quickly to safer and higher place. As a solution, this paper proposes a system that's not only able to detect the water level but also able to measure the rise speed of water level and alerted the resident. Waterfall model is adopted as the methodology in this project. Raspberry Pi is used to collect data from the water sensor and transmit the data to GSM module for sending an alert via SMS. The analysis will be done to show how the Raspberry Pi will be integrated with the smartphone to give an alert. The system is tested in an experiment consist of two different environments in order to ensure that the system is able to provide accurate and reliable data. The project is an IoT based which significantly in line with the Industrial Revolution 4.0, supporting the infrastructure of Cyber-Physical System.

ICAMCCT_130: AN INVESTIGATION AND JOINING EFFICIENCY OF UHMW-PE PLATE BY FRICTION STIR WELDING PROCESS USING THREADED TOOL PROFILE

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Abstract **-** Polypropylene is one of the thermoplastic materials used in the lot of engineering applications such as marine, aerospace, automotive, toys and etc. Friction Stir Welding (FSW) is a solid-state method of used for joining metals. Particularly UHMWPE is one of the polymer materials with a lot of engineering applications and a study on the behavior of the joining properties of polyethylene by FSW is necessary at this stage. In this investigation, FSW process has to be applied to join a polyethylene plate of 8 mm thickness with specially designed Threaded tool pin profile. The research will be applied Taguchi Method on UHMWPE specimen of dimensions 100 × 100 × 8 mm, which have following parameters: various RPM, Feed and Axial Load.

ICAMCCT_133: AN EFFICIENT SYNTHESIS OF 1, 2, 3 - TRIAZOLYL-CYCLOHEXENONE HYBRIDS *VIA* ONE-POT MULTICOMPONENT METHOD

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Abstract - In general, study of heterocyclic compounds is one of the most important and fascinating outlets of organic chemistry. Especially, cyclohexenone derivatives[1] are displaying a broad spectrum of biological activities such as anti-bacterial, anti-fungal and anti-oxidant etc. On the other hand, 1, 2, 3-triazole derivatives[2,3] are also found to possess anti-proliferative and anti-tubercular activity etc. In view of this, it was envisaged that the synthesis of hybrid molecules containing two of the above said bioactive skeletons (1,2,3-triazole & cyclohexenone) in a single frame is worth the attempt. Thus, an efficient synthesis of 1,2,3-triazolyl- cyclohexenone hybrids has been accomplished in excellent yields from easily accessible starting substrates *via* one-pot sequential multicomponent protocol under ambient temperature.

ICAMCCT_131: AUTOMATIC WATER FLOW SYSTEM

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Abstract - An automatic faucet or tap (also known as hands free faucet, touchless faucet , electronic faucet) is a tap equipped with the proximity sensor and mechanism that opens its valve to allow water to flow in response to presence of a hands in close proximity. It was first developed in 1950s but were not produced for commercially use the until 1980s. When they first appeared to general public at airport laboratories. Automatic tap are water saving devices, helping save 70% of the water that would otherwise swirl down the drain unused and converse as much as 3-5%of the water used by a standard household. Automatic tap are common in public washrooms, particularly in airports and hotels where they are supposed to reduce water consumption. They also found in some kitchen and washrooms of private residences.Others uses include providing drinking water to pets or livestock. Shutting off automatically after hand washing, reducing waste water, No need to use hand for turn on/off, this tap is safe for child. In the research work, the design and implementation of the automatic water flow system is developed.

ICAMCCT_134: DC GRID CONVERTER WITH REDUCED SWITCHES

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Abstract - In DC grid, the criteria for coupling a new source with the grid are simple when compared to the AC grid. The only parameter considered here is the voltage magnitude, for matching the output voltage of the source with the DC grid the buck – boost conversion is needed. Therefore, two step conversion of DC to AC and AC to DC is done with full wave bridge converters. The proposed converter achieves high step-up voltage gain with small duty cycle by a combined boost and fly-back topology. Besides, in the proposed converter any auxiliary switch or magnetic core has not been used therefore the number of converter components has not been increased much in comparison with the conventional full wave bridge converter. The circuit consist of one MOS-FET which is turned on and off by a microcontroller in order to achieve a constant output voltage. The constant power flow to the load is ensured by the flyback operation. By using this topology we could reduce the number of switches needed in a full wave bridge converter thereby reducing the complexity of firing circuit and production cost.

ICAMCCT_135: COMPARATIVE ANALYSIS OF MECHANICAL BEHAVIOUR WITH RADIOGRAPHY ANALYSIS OF DISSMILLAR JOINTS ON EN24 AND OHNS

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Abstract – one of the most important methods of permanent fastening and versatile means of fabrication available to industry is welding. This is because it is one of the most important tools available to engineers in his efforts to reduce production, fabrication and maintenance costs. Welding is simply an art of joining metals by heating and the pressing together which simply requires a heat source to produce a high temperature zone to melt the material its application includes: used in ships buiding, bridges, pressure vessels, industrial machinery, automobile, rolling stock and mny other fields. Welding operation has to be carried out on the medium carbon steel followed by various destructive and non-destructive analyses. For effective study of the effect of annealing on the weld joint, mechanical test hardness and tensile has to be carried out and heat treated and un-heat treated samples of the EN24 & OHNS samples by using GMAW process.

ICAMCCT_136: CORROSION BEHAVIOUR OF MAGNESIUM BASED ALLOYS

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Abstract **-** Magnesium (Mg) alloys have received an increasing interest in the past two decades for their tremendous application potential.The corrosion resistance levels of common magnesium alloys are still relatively low,it must be improved. The addition of bismuth and RE(yttrium) to Mg alloys is believed to increase the corrosion resistance.In this project,the common influence of mechanism of rare earth on mechanical and anti-corrosion properties of Mg alloys are . It demonstrates the research on corrosion behaviour of Mg based alloys. Nevertheless surface treatments are unable to fundamentally solve the problems of fast corrosion rate and localised corrosion. Therefore it is great importance to alter and improve the intrinsic corrosion behaviour of magnesium Alloys. This project presents the review of the improvements made to enhance the corrosion resistance of Mg alloys through the design and preparation of the Mg alloys (Magnesium-5Bismuth-yttrium) including purifying, alloying,grain refinement and heat treatment techniques.

Key words: corrosion behaviour; magnesium Alloys; corrosion resist

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ICAMCCT_129: PROCESSING AND CHARACTERIZATION OF MAGNESIUM BASED ALLLOYS

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Abstract **-** The need for cost effective energy efficient materials that can accomodate the diverse industrial demands has stimulated the advancement of magnesium based material. Magnesium has the lowest density among the commercially available structural metals and it's superior physical and mechanical properties make magnesium alloys extremely attractive for application requiring lightweight,good castability and damping capacity.In recent years due to the demand for lightweight magnesium alloys has increased rapidly. This research activities have been concentrated on many different fields, including the development of High pressure die casting process and semi-solid processing of Magnesium-5Bismuth-yttrium alloy and it's characteristics are will be tested.

ICAMCCT_137: DESIGN & ANALYSIS OF CONNECTING ROD BY USING COMPOSITE MATERIALS ALUMINUM ALLOY& MAGNESIUM STEEL

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Abstract - Connecting Rods are practically used in all varieties of automobile engines acting as an intermediate link between the piston and the crankshaft of an engine of an automobile. It is responsible for transmission the up and down motion of the piston to the crankshaft of the engine, by converting the reciprocating motion of the piston to the rotary motion of crankshaft. While the one end, small end the connecting rod is connecting to the piston of the engine by the means of piston pin, the other end, the bigger end being connected to the crankshaft with lower end big end bearing by generally two bolts. Generally connecting rods are being made up of stainless steel and aluminium alloy through the forging process, as this method provides high productivity and that too with a lower production cost. Forces generated on the connected rod are generally by weight and combustion of fuel inside cylinder acts upon piston and then on the connecting rod, which results in both the bending and axial stresses. The present paper attempts to design and analyze the connecting rod used in a diesel engine in context of the lateral bending forces acting along its length during cycle of it The lateral bending stress are commonly called as whipping stress and this whipping stress forms the base of evaluation of performance of various materials that can be used for manufacturing of connecting rod. The conventional material used is steel which is design using CAD tool which is analyzed for bending stress acting on it in the arena of finite element analysis using ANSYS workbench 14.5 and this procedure is followed for different material which are aluminium 7075 , Manganese 6061 and High Strength Carbon steel.

ICAMCCT_155: DESIGN AND ANALYSIS OF CHASIS OF OFF ROAD BUGGY

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Abstract - Nowadays off-road buggy have become a new source of entertainment for the youth. The durability of the buggy chasis is very important thing to consider. This paper will mainly focus on the analyse the buggy chasis. CAD software is used to design the buggy chasis. The various ground on which the buggy chasis is tested are structural analysis, impact test by ANSYS Software

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ICAMCCT_138: DESIGN ANALYSIS AND COMPARATIVE MECHANICAL PROPERTIES OF AL-METAL MATRIX S.I CONNECTING ROD

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Abstract - MMCs are made by dispersing a reinforcing material into a metal matrix. They are prepared by powder metallurgy and casting, although several technical challenges exist with casting technology. Achieving a homogeneous distribution of reinforcement within the matrix is one such challenge, and this affects directly on the properties and quality of composite. In this work a composite is developed by adding Boron carbide & Aluminium oxide with Aluminum metal (1100) by mass ratio 10%. The composite has to be prepared by crucible casting technique. It is proposed to use this material for power transmitting elements such as connecting rod which are subjected to continuous loading. From the investigation the mechanical property of Al1100 metal matrix were analyzed finally found Boron carbide reinforcement enhanced the good tensile and compressive strength. Impact strength is good in pure 1100 and followed by Aluminina oxide. Boron carbide shows superior tensile and compressive strength compared than Alumina oxide metal matrix. But impact strength is more at Alumina oxide. Impact is strength is obtained at without metal matrix of Al1100.

ICAMCCT_124: ISOLATION AND CHARACTERISATION OF MINERAL (P, K) SOLUBILISING BACTERIA

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Abstract - The growth of plant requires three important nutrients such as nitrogen, phosphate and potassium. Phosphate and potassium are present as complex form in soil which is unavailable to plants. One of the cheapest and easiest way to make potassium and phosphate available to plant is processing those minerals using P and K solubilising bacteria. This study deals with the utilisation of phosphate and potassium to plants through mineral solubilising bacteria from decayed fruits and vegetables. Selective medium such as pikovskaya and aleksandrove medium is used to isolate phosphate and potassium solubilising bacteria. Four colonies were isolated from six different samples. Isolated samples were studied using morphological, biochemical and molecular analysis. Based upon the growth of paddy, the efficiency of the four colonies will be checked. Hence this study reduces the use of chemical fertiliserup to 25% which reduces land pollution

Keywords*:* phosphate, potassium, pikovskaya medium, aleksandrove medium

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ICAMCCT_139: AN EMPIRICAL SEMANTIC SEARCH BY OPTIMAL MATCHING OVER ENCRYPTION IN PUBLIC CLOUD

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Abstract- Currently the searchable encryption becomes the focus topic with the emerging cloud computing paradigm. The existing research schemes are mainly semantic extensions of multiple keywords. However, the semantic information carried by the keywords is limited and does not respond well to the content of the document. In existing semantic searching schemes, the verifiable searching does not be supported since it is dependent on the forecasted results from predefined keywords to verify the search results from cloud, and the queries are expanded on plaintext and the exact matching is performed by the extended semantically words with predefined keywords, which limits their accuracy. In this paper, we propose a secure method to verify the semantic searching scheme. For semantic optimal matching on cipher-text, we formulate word transportation (WT) problem to calculate the minimum word transportation cost (MWTC) as the similarity between queries and documents, and we propose a secure transformation to transform WT problems into random linear programming (LP) problems to obtain the encrypted MWTC. For verifiability, we explore the duality theorem of LP to design a verification mechanism using the intermediate data produced in matching process to verify the correctness of search results. Finally, experiments based on real data show that the scheme is effective and feasible.

Key Words: public cloud, results verifiable searching, secure semantic searching, word transportation.

ICAMCCT_183: DESIGN AND REMODELING 60CC TO 80CC MINI RACE BIKE WITH LIGHT WEIGHT AND LOW-COST FIBRE COMPOSITE

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Abstract - Designing and fabricating a mini bike is not an easy one. We designed a mini race bike with 69.7cc engine and with given dimensional specifications. We used 16 inches wheel with normal drum brake. Our chassis design is different from other commercial and race bike chassis. And we used normal rear suspension with dual springs instead of mono suspension which is most commonly used in race bikes. Our specialty is competing in 80cc racing with 70 cc engine. We reduced weight of our vehicle to compete with 80cc engines.

ICAMCCT_140: AN ALTERNATIVE OPTIMIZATION STRATEGY BASED ON MULTI MODEL SELF SACED LEARNING FOR OBJECT DETECTION

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Abstract* - *Sparse coding based anomaly detection has shown promising performance, of which the keys are feature learning, sparse representation, and dictionary learning. In this work, we propose a new neural network for anomaly detection by deeply achieving feature learning, sparse representation and dictionary learning in three joint neural processing blocks. Specifically, to learn better features, we design a motion fusion block accompanied by a feature transfer block to enjoy the advantages of eliminating noisy background, capturing motion and alleviating data deficiency. To address disadvantages of existing sparse coding optimizers a novel recurrent neural network to learn sparse representation and dictionary by proposing an adaptive iterative hard-thresholding algorithm and reformulating the adaptive ISTA as a new LSTM is proposed. To best of our knowledge, this could be one of first works to bridge LSTM and may provide novel insight in understanding LSTM and model-based optimization, as well as sparse coding based anomaly detection. Extensive experiments show the state-of-the-art performance of our method in the abnormal events detection task.

ICAMCCT_141: INTELLIGENT GARBAGE MANAGEMENT IN SMART CITIES USING IOT

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***Abstract* -** This paper introduces a smart city garbage management system using IOT innovation technique. Garbage dumped on the streets and in public places typically results in unsanitary conditions. The current system uses a physical approach to verify the amount of garbage collected in the bin, which is then emptied by the corporation.In order to deal with these kind of tragedies anintelligent garbage management in smart cities using IOT is put forward which is a combination of both hardware and software technologies. The aim of this project is to provide efficient garbage collection system by connecting Wi-Fiassistedwaste management activities.Thesystem frame work is based on different sensors,Wi-Fiand microcontroller.Intelligent garbage management usesmultiple technologies firstly the technology for measuring the amount of trash dumped secondly the movement of waste and lastly sending necessary signal to the cloud server with details like dustbin level along with the unique ID provided.The proposed system of waste management yield to green and healthy environmentwith good performance efficiency.

ICAMCCT_142: FAULT ANALYSIS AND RECONFIGURATION OF BLDC MOTOR DRIVE

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Abstract **-** Brushless DC motors (BLDC) have been widely used in applications such as hybrid electric vehicle (HEV) and pure EV. Any drive train failures or malfunction in an EV application may result in a performance detoriation. Therefore in such applications implementing of fault detection and diagnosis algorithm is necessary to improve safety and reliability of the overall system. This project presents a novel on-line condition monitoring method for BLDC motor drive. The time-frequency signal processing method Hilbert transform is applied to extract the characteristic component of line current. The extracted features form the input to the fault diagnosis algorithm developed to identify the nature of fault. This work focuses on diagnosing the different type of inverter switch fault in BLDC motor drive. The algorithm ensures isolation of faulty switch and normal operation is restored by providing appropriate pulses to the redundant switches. Simulation results indicate the efficacy of the proposed method.

Keywords: Brushless DC motor, Fault detection ,Fault diagnosis,Hilbert Transform

ICAMCCT_154: HUMANITARIAN TECHNOLOGY

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Abstract **-** The humanitarian sector is currently undergoing what has been defined as an “innovation turn”. It follows almost twenty five years of often bitter debate over the perceived failure of the humanitarian system to achieve its principle goal of saving lives and alleviating suffering in conflict and disaster settings. These criticisms range from unprofessional and inefficiency to fundamental critiques and programs exacerbate the conflict and poverty to which they ostensibly seek to respond, perpetuate political marginalization and even prioritize the agenda of foreign powers over assisting those in need. It also comes during the highest level of humanitarian need since Second World War. Against the back drop, there is much optimism surrounding technology, prompting substantial investment to improve aid outcomes and strengthen relationships between formal humanitarian organizations and the private and military sectors where innovation is occurring. Concordantly “Transformation through innovation” was a key theme at 2016 World Humanitarian Summit.

ICAMCCT_143: IMPLEMENTATION OF RENEWABLE ENERGY AND RELUCTANCE MOTOR FOR AGRICULTURE

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Abstract - To overcome the scarcity of water and use the available water efficiently, drip irrigation system is the best technique. The existing drip irrigation systems though are better than standard irrigation systems they have water loss due to evaporation. This paper presents a technique through the water will fall in form of droplets and will effectively reach the roots. Water loss due to excess watering and evaporation hence will be avoided. This is achieved using a renewable energy source and high-performance, robust motor like switched reluctance motor (SRM) to achievesustainable energy and water conservation. Photovoltaic (PV) panels are used to drive the motor for pumping water. The available well water or nearby well, canal water can be used for irrigation.Use of PV panels reduce dependency on grid and also provides green and clean power source. This photo irrigation system will reduce the manpower required for conventional irrigation. Due to development in material-based research, prices of PV panels have reduced with simple mounting. Thus, the power quality issues can be reduced and excess power can be fed to power grid to avail related benefits. Though the initial cost may be more the benefits over the period and pay back will be added advantage. The micro irrigation system is easy to implement and environment friendly. This model will increase water efficiency, minimize fertilizer loss and can be implemented to irrigate hilly areas also.Instead of Induction and Brushless DC (BLDC) motors SRM is chosen over these motors because of its ruggedness, robustness, reliability, fault tolerance capability and manufacturability. Presence of magnets in BLDC increases its cost and also the temperature sensitivity which in SRM does not arise due to absence of magnets. The drive efficiency can be increased and error percentage can be reduced by designing a controller such that torque ripples are reduced.The paper involves design and development of the drip irrigation system which implements power generated by PV cells to run the motor for pumping and irrigation. A robust maximum power point tracking (MPPT) algorithm is developed. A hybrid DC to DC boost converter is designed which provides good reliability and offers good efficiency. The switching of SRM is controlled through asymmetric converter. Field programmable gate array (FPGA) will be implemented for speed control as well to reduce the torque ripple of SRM. The developed circuit is simulated.

Key Words: Drip (micro) irrigation, Photovoltaic panels, switched reluctance motor, hybrid boost converter, FPGA controller.

ICAMCCT_144: A METAHEURISTIC BINARY GREY WOLF OPTIMIZER FOR DATA CLUSTERING BASED ON TEXT FEATURE SELECTION

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Abstract - Feature Selection (FS) is a noteworthy step in text clustering (TC). Machine learning applications eliminate unnecessary features in order to enrich learning effectiveness. This work presents a metaheuristic swarm optimization technique binary grey wolf optimizer (BGWO) algorithm, which rivals grey pack hunting and social behaviour. This algorithm provides advantages over other swarm-based intelligence techniques. Besides, the decision variables' exchange and the cooperation process between swarm participants have a substantial advantage. The BSWO is presented to challenge the text FS problem. This method familiarizes a new implementation of the GWO algorithm by selecting informative features from the text. These informative features are evaluated using the clustering technique so that time complexity is reduced, and the clustering algorithm's efficiency is improved. The performance of BGWO is examined on standard datasets. The results showed that the BGWO output outperformed the rest of the compared algorithms such as GA and BPSO based on the measurements of the evaluation. The experiments also showed that the BGWO method could achieve better results in terms of purity, F-measure.

Keywords: Binary grey wolf optimizer, Text mining, Feature Selection , Text Clustering.

ICAMCCT_156: WEB-BASED BLOOD BANK MANAGEMENT SYSTEM K.Siva Subatha[1], V.Kausalya[1], A.Mariya A.Nisha[1], V.G.Anisha Gnana Vincy[2]

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Abstract - Blood Bank Management System (BBMS) is a web based system that can guides the information of blood bag during its handling in the blood bank. With this system, the user of this system can key in the result of blood test that has been conducted to each of the blood bag received by the blood bank. The process of managing the blood bag that is received from the blood donars needs a proper and systematic management. The blood bag must be handled with care and treated thoroughly as it is related to someone's life. The development of Web-based Blood Bank Management System (BBMS) is proposed to provide a management functional to the blood bank in order to handle the blood bag. The methodology used to build this system uses the Rational Unified Process. The technology platform in implementing this system uses J2EE programming environment with Java and JSP, using MySQL for SQL database and HTML5, CSS and JavaScript for web development

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ICAMCCT_145: AUTOMATIC OPTIMIZED CONVOLUTION NEURAL NETWORK (CNN) BASED LUNG INFECTION SEGMENTATION

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Abstract **-** Corona virus Disease 2019 (COVID-19) spread globally in early 2020, causing the world to face an existential health crisis. The most common symptoms of COVID-19 patients include fever, cough and shortness of breath, and the patients typically suffer from pneumonia. Automated detection of lung infections from computed tomography (CT) images offers a great potential to augment the traditional healthcare strategy for tackling COVID-19. Computed Tomography (CT) imaging plays a critical role for detection of manifestations in the lungs associated with COVID-19, where segmentation of the infection lesions from CT scans is important for quantitative measurement of the disease progression in accurate diagnosis and follow-up assessment. However, segmenting infected regions from CT slices faces several challenges, including high variation in infection characteristics, and low intensity contrast between infections and normal tissues. Further, collecting a large amount of data is impractical within a short time period, inhibiting the training of a deep model. To address these challenges, a novel COVID-19 Lung Infection Segmentation Squeeze Net is a convolutional neural network (CNN) is proposed to automatically identify infected regions from chest CT slices. In CNN, a parallel partial decoder is used to aggregate the high-level features and generate a global map.

ICAMCCT_165: RESOURCE FIT MOBILE CLOUD: EFFICIENT RESOURCE SCHEDULING USING R-FIT SCHEDULING

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Abstract **-** Mobile device users have increased their demands on more PC-like user experiences such as mobile gaming, augmented reality, and mobile version of legacy PC applications. Due to this large demand new challenges and problems emerge such as how to enable task offloading in such environment, how to achieve minimum time and energy consumption through task scheduling, how to maintain the service reliability and recover from failures. This project work discusses the application of R-Fit Scheduling algorithm for Efficient Resource Scheduling. RFS is better while working with dynamic workloads, and schedule the best fit for the requested dynamic mobile user entry. It gives allocation of fewer amounts of user tasks to the less capable VMs and more amounts of user tasks to the high capable VMs.

ICAMCCT_146: DCAP: A SECURE AND EFFICIENT DECENTRALIZED CONDITIONAL ANONYMOUS PAYMENT SYSTEM BASED ON BLOCK CHAIN

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Abstract **-** Block chain, as the distributed ledger technology, has attracted a lot of attention with a significant growth in both horizontal expansion (e.g. Bitcoin, Ethereum) and vertical development (e.g. Hyperledger). The former is called a public block chain (i.e. anyone can join or quit the system to commonly maintain the block chain), whereas the latter is only maintained by some trusted Authority (hence, it is called a permission or private block chain). Among these applications, decentralized payment systems (e.g. Digital currency) have been one of the most mature block chain applications with widespread adoption. While the early designs (e.g. Digital currency) are often the currency of choice by cybercriminals (e.g., in ransomware incidents), they only provide pseudo-anonymity, in the sense that anyone can deanonymize online transactions by using information in the block chain. In our proposed work strengthen the privacy protection of decentralized payment systems by Novel Block chain based Decentralized Conditional Anonymous Payment (BDCAP) and describe the corresponding security requirements. Specifically, we present a PKI-based solution (using a typical digital signature protocol such as Modified ECDSA), which is designed to facilitate secure communication in decentralized payment system. In other words, we combine the block chain technology and a key derivation algorithm to realize an effective certificate management. This reduces the need for participating transaction user to store a large number of private keys. To reduce the verification time cost, our BDCAP supports replacing ECDSA with modified ECDSA for batch verification or directly adopting other PKI-based signatures with batch verification. ***Keywords:*** *Bitcoin, Block chain, Hyperledger, Anonymous, PKI*

ICAMCCT_179: LOAN PREDICTION USING DEEP LEARNING

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Abstract **-** The loan is one of the most important schemes of bank. Usually the banks are willing to giving loans to the customers based on their requirements. However, unfortunately there are some customers who delay the payment of loan or unable to pay the loans due to financial status. In order to solve this problem, banks need to use the help of some techniques in predicting the loan repayment status. Generally Machine Learning models are known to have a high accuracy on prediction problems. In this project we use some of the deep learning models in default loan prediction. A dataset related to loans in bank is taken and is trained with deep learning algorithm to provide a better accuracy. Comparisons with machine learning are also done in this work.

ICAMCCT_147: NETWORK TRAFFIC REDUCING BASED N GREEDY APPROACHES

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Abstract **-** These local edges re-routing mechanisms are often meant as a first line of Défense, and the resulting fast but simple rerouting is just a temporary solution, before the control plane rigorously optimizes the flow allocation for the new network topology. In order to enhance the performance of content distribution networks (CDNs), several approaches have been developed based on the use of content management services provided by intermediary proxies. A most well-known solution is Fast Reroute in MPLS where, upon a link failure, packets are sent along a recomputed alternate path without waiting for the global recompilation of routes. Self-driving networks represent the next step of network management techniques in the close future. A fundamental point for such an evolution is the use of Machine Learning based solutions to extract information from data coming from network devices during their activity. SRTCs provide aggregated measurements related to forwarding operations performed by SRv6 routers. The theoretical framework deployed is used to identify, on the basis of network configuration parameters of both SRv6 and IGP protocols, the minimum set of independent SRTCs to characterize the Network Status: we show that about the 80% of counters can be neglected with no information loss.

Keywords: *SRv6, MPLS, IGP protocols, SRTC*

ICAMCCT_180: DESIGN AND ANALYSIS OF GO-KART CHASSIS

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Abstract - In present study chassis of Go-kart is design and simulate for different impact tests like front impact test, rear impact test and side impact test. First chassis designed in solid works software, simulate in ANSYS Workbench. This paper represents the designing and failure criterion according to the von-Mises stress for GO-KART chassis. The objective of present investigation aims to get Chassis design According to the Structural Analysis. For the safety point of view of the driver present analysis is carried out for a range of force values for all three impact tests. For present analysis reliability, strength of material, ease to manufacture energy absorption ability and structural rigidity or main consideration.

ICAMCCT_148: ATTACK DETECTION USING MULTI-LAYER NEURAL NETWORKED IN NONLINEAR NETWORKED CONTROL SYSTEM

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Abstract **-** In networked control systems (NCS), a certain class of attacks on the communication network is known to raise traffic flows causing delays and packet losses to increase. This work presents a novel Multi-Layer Perceptron (MLP)-based attack detection and estimation scheme that captures the abnormal traffic flow due to a class of attacks on the communication links within the feedback loop of an NCS. By modelling the unknown network flow as a nonlinear function at the bottleneck node and using a MLP-observer, the network attack detection residual is defined and utilized to determine the onset of an attack in the communication network when the residual exceeds a predefined threshold. To Develop a novel MLP observer-based network attack detection and estimation along with the derivation of detect ability condition for uncertain nonlinear NCS. To apply the MLP-based event-triggered controller for the physical system in the presence of network delays and packet losses in the presence of sensor attacks. To Develop the MLP-based attack detection and estimation schemes for the overall NCS. Attacks on the network can be detected and estimated with the proposed scheme. The simulation results confirm theoretical conclusions that the Proposed MLP outperformed upon detection.

Keywords: *Network control system(NCS), Network Operating system(NOS), Multi-layer Perceptron(MLP), event-triggered control, flow control, neural network (NN), optimal control.*

ICAMCCT_182: ELECTROMAGNETIC SUSPENSION

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Abstract - In automobile industry suspension playes a major roll in the comfort and riding quality. Since in the an ancient period the system have majourly developed from starting at leaf spring suspension to the shock absorber. For the better ride and handling of the automobile bodies electroagnet will be a effecient way for the both better ride quality and handling effeciency. The electromagnetic suspention works with the help of electrucity produced magnetic waves. It can be controlled by the amount of electricity produced to the system, It can be easily handled in the both higher and lower speeds. The variation in speed of the automotive body will fluctuate the supply of electricity to the suspention system. In lower speeds system should concern in better ride quality with soft suspention and in higer speed the suspension need to be stiffer side for better stability of the vehicle by the stiffer side suspension.

ICAMCCT_149: INTELLIGENT CONVERSATIONAL BOT USING LEMMATIZER AND TOKENISATION WITH SPEECH RECOGNITION TO HELP STUDENTS TO NAVIGATE COLLEGE

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Abstract - This project is focusing on creating a chatbot to be used by students to get their queries responded easily from the college website. The College Enquiry Chatbot has the capacity to make friendly conversations; respond the course and faculty details; give the link for the academic calendar; answer the frequently asked questions; calculate the fees based on the student's input; and give the timings, address, contacts, and events information of the departments like Union and Library. Using Artificial Intelligence (AI), chatbots can simulate human conversations. There are two categories of chatbots. One category is command based chat-bots where chat-bots rely on a databank of replies and heuristics. The user must be very specific while asking the questions so that the bot can answer. Hence, these bots can answer limited set of questions and cannot perform function outside of the code. The other category is chatbots based on AI or machine learning algorithms, these bots can answer ambiguous questions which means the user do not have to be specific while asking questions. Thus, these bots create replies for the user's queries using Natural Language Processing (NLP).Conversational agents become essential by interacting with machines with the desired users to provide natural language interfaces. So, the role of chatbots in information technology and communication is widely used. Many chatbots are created day by day through marketing, medical, education and banking. Chatbot is also a user assistant substance that is intended to produce communication with humans through their regular language. In the educational system, it is essential for teaching, learning and searching the desired information for a specific area. The obvious factor that leads us one step closer to living in our fantastic world is that it knows our messages and can respond to us. The bot would match the input sentence from the user with that pattern existed in the knowledge base.

ICAMCCT_150: A METAHEURISTIC BINARY GREY WOLF OPTIMIZER FOR DATA CLUSTERING BASED ON TEXT FEATURE SELECTION

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Abstract - Feature Selection (FS) is a noteworthy step in text clustering (TC). Machine learning applications eliminate unnecessary features in order to enrich learning effectiveness. This work presents a metaheuristic swarm optimization technique binary grey wolf optimizer (BGWO) algorithm, which rivals grey pack hunting and social behaviour. This algorithm provides advantages over other swarm-based intelligence techniques. Besides, the decision variables' exchange and the cooperation process between swarm participants have a substantial advantage. The BSWO is presented to challenge the text FS problem. This method familiarizes a new implementation of the GWO algorithm by selecting informative features from the text. These informative features are evaluated using the clustering technique so that time complexity is reduced, and the clustering algorithm's efficiency is improved. The performance of BGWO is examined on standard datasets. The results showed that the BGWO output outperformed the rest of the compared algorithms such as GA and BPSO based on the measurements of the evaluation. The experiments also showed that the BGWO method could achieve better results in terms of purity, F-measure.

Keywords: Binary grey wolf optimizer, Text mining, Feature Selection , Text Clustering

ICAMCCT_151: COMPARATIVE STUDY OF ACHIEVING SUPERHYDROPHOBIC SURFACE OVER DIFFERENT SUBSTRATES

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Abstract - Super hydrophobic surfaces are currently a subject of great interest and enthusiastic study because of their tremendous applications. Recently, various methods for the fabrication of Superhydrophobic surfaces have been explored. In view of developing super hydrophobic film over different substrates a systematic procedure is developed and proposed in this research work. In order to prepare the test specimens, the chemical etching and solution immersion time have been varied at five, three different levels respectively. In each category three samples are considered. The Copper Sulphate was used as the etchant for Chemical etching process. Rough surface was created by chemical etching process and stearic acid was coated by solution immersion method. Creating surface roughness over the substrate surface is essential to properly coat the superhydrophobic film over the substrate surface. The superhydrophobic film prevents the water penetration through the surface. The superhydrophobicity is in terms of wettability and contact angle. The wettability decreases with increase in contact angle. For a surface to be superhydrophobic the contact angle must be higher than 130 degree. The contact angle is measured by the Goniometer. The obtained contact angle of surface is as high as 142.6 degree.

ICAMCCT_152: SMART CLASSROOM ATTENDANCE SYSTEM USING GROUP FACE RECOGNITION BASED ON DEEP CONVOLUTIONAL NEURAL NETWORK

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Abstract **-** Facial expression recognition has become a newly-emerging topic in recent decades, which has important value in the field of human-computer interaction. The human face is an important entity which plays a crucial role in our daily social interaction, like conveying individual's identity. Face expression recognition system able to recognize the person from a distance without touching or any interaction with the person. In this paper, we present a deep learning-based approach, that is a deep unified model for Face Recognition based on Deep Convolution Neural Network.For face recognition purpose, there is a need for large data sets and complex features to uniquely identify the different subjects by manipulating different obstacles like illumination, pose and aging. So here we are designing a group-based face attendance system based on the deep unified model. In our system, we have a number of class rooms of a specific institute in which we setup our face recognition system for making a smart class rooms. Several images from different smart class room Buffys are being sent simultaneously for processing, in order to take the attendance. In order to measure the validity of the proposed algorithm, a web application of a group based face attendance system is developed.

ICAMCCT_172: IOT BASED WATER QUALITY MONITORING SYSTEM

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Abstract **-** Water quality monitoring in real time faces challenges because of global warming limited water resources, growing population, etc. Hence there is need of developing in better methodologies to monitor the water quality paramerters in real time. Water pollution is one of the biggest fears for the green globalization. In order to ensure the safe supply of the drinking water the quality need to be monitor in real time. This paper unfurls the design, implementation and control of the programmed monitoring system. The roots of our project lie on the methodology of IoT. In this paper we present and development of a low cost system for real time monitoring of the water quality n IoT. The system consist of several sensor is used to measuring physical and chemical parameters of the Water. The parameter such as temperature, PH, turbidity, flow sensor of the water can be measured. The measured values from the sensors can be processed by the core controller. The Arduino model can be used as a core controller. Finally, the sensor data can be viewed on internet using WI-FI system. For best result, the principle operation of the automatic gate control arrangement is subjected to dry running under various possible circumstances, with proteus as the platform for working.

ICAMCCT_153: SMART RESCUE SYSTEM FOR OPEN BOREWELLS USING RASPBERRY PI

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Abstract **-** This thesis applies the process and knowledge of Open borewells are always a trap. And the accidents can be avoided till now. Therefore, a practical, safe, and efficient rescue system becomes necessary. But still, the techniques are impractical. This project aims at designing a system that can rescue the child with ease, safe, and within less time.

There are methods or techniques which can save the child from the borewell. But it may be impractical to do it with a single method. Therefore,this project consists of providing the provision for the inclusion of multiple rescue methods, which provides the possibility of choosing the best method to save. In our project, we plan to combine the various methods of rescuing, some of which do exist today. The design system is adaptable to the diameter of the borewell which varies from 8 inches to 12 inches. The system consists of a camera, lights, oxygen supplier, balloon technology, and umbrella technique.Using sensors and camera, the depth, position, and state of the child is monitored. The robot is then controlled to choose the appropriate rescue method. With the help of it, the child is prevented from falling into depth again. And the inflated balloon cushion is used to raise the child. The child is raised into a rescue bag to avoid further scratches. Then the whole robot assembly is raised with the child and animal safely.

Keywords*:* Open Borewell, Rescue System, Raspberry-pi,Child and animals,Safety, Well Trap.

ICAMCCT_157: TECHNIQUES FOR ELIMINATING SPOOFING ATTACKS BY UTILIZING DEEP LEARNING MECHANISM.

Mohamed Khan

NI University

Abstract **-** The biometric element fundamentally centers around wellbeing and keeps away from unapproved section basically dependent on a unique mark to end developing singularity taking. Programmers made manufactured fingerprints using gelatin, Play-Doh, and Silicone, doing misrepresentation exercises, and disregarding the wellbeing measures. The system of doing a crime with the created support finger is name parodying. For guaranteeing individual presence, some current techniques using hand tailored descriptors hold been utilized to search out such criminal operations. The predominant course of gives low acknowledgment with respect to exactness rates. This paper strongly emphasizes the utilization of an accuracy identifier machine to envision the fingerprint's spoofing attack.

ICAMCCT_158: AUTOMATED TRASHCAN SYSTEM USING ARDUINO

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Abstract - In the recent decades, Urbanziation has increased tremendously. So, there is massive increase in waste production. Waste Management has become a crucial issue to be considered. In this paper, smart bin is built on a microcontroller based platform Arduino Uno board which is interfaced with GSM module and Ultrasonic sensor. Arduino will be programmed in such a way that will automatically open to put trash inside it. If it finds any other trashes near the dustbin means automatically makes an alarm. If dustbin is full, notification will be send to the particular contact from GSM module.Once the dustbin is squashed people can reuse the dustbin. Nowadays, if we are using this dustbin, it can be managed efficiently as it avoids unnecessary lumping of wastes on roadside. This wastes are create more problems. and this may even cause dreadful diseases.

Keywords: arduino,GSM,Ultrasonic Sensor,IoT

ICAMCCT_159: ANALYSIS OF DENTAL DISEASES FROM DENTAL PANORAMIC RADIOGRAPHY USING IMAGE PROCESSING ALGORITHMS

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Abstract - Radiological imaging in the medical field has been continuously evolving in the past years. Dental Radiographs are of Intraoral and Extraoral radiographs in which Bitewing, Periapical and Occlusal are Intraoral and Panoramic, Cephalometric are Extraoral radiographs. Due to bad hygiene, oral cavity can be infected and it leads to the dental diseases like cavities, gum disease, Periodontitis, cracked or broken teeth, oral cancer etc. Dental radiographs are of poor quality due to several factors such as noise, uneven exposure, low contrast. Dental diseases can be diagnosed using appropriate radiographs and due to the variations in intensity and other technical effects early detection of these dental diseases is difficult. However for accurate and early diagnosis of the diseases, radiographs has to be processed using image processing techniques thereby improving its quality. Automatic diagnosing of dental diseases from radiographs is a challenging task and we believe it can be achieved using robust image processing algorithms.

ICAMCCT_161: DESIGN & ANALYSIS OF CONNECTING ROD BY USING COMPOSITE MATERIALS ALUMINUM ALLOY& MAGNESIUM STEEL

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Abstract **-** Connecting Rods are practically used in all varieties of automobile engines acting as an intermediate link between the piston and the crankshaft of an engine of an automobile. It is responsible for transmission the up and down motion of the piston to the crankshaft of the engine, by converting the reciprocating motion of the piston to the rotary motion of crankshaft. While the one end, small end the connecting rod is connecting to the piston of the engine by the means of piston pin, the other end, the bigger end being connected to the crankshaft with lower end big end bearing by generally two bolts. Generally connecting rods are being made up of stainless steel and aluminium alloy through the forging process, as this method provides high productivity and that too with a lower production cost. Forces generated on the connected rod are generally by weight and combustion of fuel inside cylinder acts upon piston and then on the connecting rod, which results in both the bending and axial stresses. The present paper attempts to design and analyze the connecting rod used in a diesel engine in context of the lateral bending forces acting along its length during cycle of it The lateral bending stress are commonly called as whipping stress and this whipping stress forms the base of evaluation of performance of various materials that can be used for manufacturing of connecting rod. The conventional material used is steel which is design using CAD tool which is analyzed for bending stress acting on it in the arena of finite element analysis using ANSYS workbench 14.5 and this procedure is followed for different material which are aluminium 7075 , Manganese 6061 and High Strength Carbon steel.

ICAMCCT_162: SECURE AND EFFICIENT DUAL DATA ACCESS CONTROL FOR PUBLIC CLOUD STORAGE

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Abstract **-** Cloud-based data storage service has drawn increasing interests from both academic and industry in the recent years due to its efficient and low cost management. To protect sensitive data from being compromised, the most widely used method is encryption. However, simply encrypting data (e.g., via AES) cannot fully address the practical need of data management. Besides, an effective access control over download request also needs to be considered so that Economic Denial of Sustainability (EDoS) attacks cannot be launched to hinder users from enjoying service. In this project, we consider the dual access control, in the context of cloud-based storage, in the sense that we design a control mechanism over both data access and download request without loss of security and efficiency. Two dual access control systems are designed in this project, where each of them is for a distinct designed setting. The security and experimental analysis for the systems are also presented.

ICAMCCT_164: TYPES OF PREDICTION USING ANN MACHINE LEARNING CLASSIFIER

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Abstract **-** Diabetes, also known as chronic illness, is a group of metabolic diseases due to a high level of sugar in the blood over a long period. The robust and accurate prediction of diabetes is highly challenging due to the limited number of labeled data and also the presence of outliers (or missing values) in the diabetes datasets. In our project,we are proposing a robust framework for diabetes prediction where the outlier rejection, filling the missing values, data standardization, feature selection, K-fold cross-validation, and different Machine Learning (ML) classifiers (k-nearest Neighbour, Decision Trees, Random Forest, AdaBoost, Naive Bayes, and XGBoost) and Multilayer Perceptron (MLP) were employed. The weighted ensembling of different ML models is also proposed, in our project, to improve the prediction of diabetes where the weights are estimated from the corresponding Area Under ROC Curve (AUC) of the ML model. AUC is chosen as the performance metric, which is then maximized during hyperparameter tuning using the grid search technique. All the experiments, in our project, were conducted under the same experimental conditions using the Pima Indian Diabetes Dataseta . From all the extensive experiments, our proposed ensembling classifier is the best performing classifier with the sensitivity, specificity, false omission rate, diagnostic odds ratio, and AUC as 0.789, 0.934, 0.092, 66.234, and 0.950 respectively which outperforms the state-of-the-art results by 2.00

% in AUC. Our proposed framework for the diabetes prediction outperforms the other methods discussed in the article. we can also provide better results on the same dataset which can lead to better performance in diabetes prediction.

ICAMCCT_163: SOLAR POWERED SMART PRECISION AGRICULTURE USING IOT S.Ramalingam[1], Periya Samy C[1], Sathish S[1], P.M.Ansho[2]

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Abstract **–** Agriculture is the back bone of India, Farming and agriculture is the basis of human life which gives food, grains and other raw materials. In proposed system the internet of things is to assist in increasing the output yield of a crop while improving efficiency and reducing amount of stress faced by farmers. The proposed system which involves controller, motor, different sensor such as soil moisture sensor, temperature sensor, pH sensor, PIR sensor and Wi-Fi module to improve the automatic operation. The information collected from various sensors can be transmitted to the respevted authority Wi-Fi module and Internet of Things. According to this system results, farming is in full of automatic and using energy from solar power which can provide an increase production by suppluinf continuous water to the field.

ICAMCCT_166: PRIVACY-PRESERVING AND SECURE DATA SHARING IN SMART CITIES USING A BLOCKCHAIN-BASED FRAMEWORK

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Abstract **-** The ubiquitous use of Internet of Things (IoT) ranges from industrial control sComplian systems to e-Health, e-commerce,smart cities, agriculture, cyber-physical systems and a lot more. However, the data collected and processed by IoT systems especially the ones with centralized control are vulnerable to availability, integrity, and privacy threats. The "PrivySharing,"is a blockchain- based innovative framework for privacy-preserving and secure IoT data sharing in a smart city environment.The data privacy is preserved by dividing the blockchain network into various channels, where every channel comprises a finite number of authorized organizations and processes a specific type of data such as health, smart car, smart energy or financial details. So, we design a web application, it is the solution for banking sector to make secure transaction using block chain technology. It's aim to do the heavy weight lifting by secure transactions and making the overall customer experiences more satisfactory and less money consuming. The databases is cryptographycally secured.

ICAMCCT_167: EXPERIMENTAL INVESTIGATION ON AIR PREHEATING SYSTEM USING WASTE HEAT IN AUTOMOBILE Vignesh S [1],Manikandan S [2],Sasikumar R [3],Senniangiri N [4]

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Abstract **-** Now a days we are facing a lot of problems with respect to fuel demand. A common problem is how to increase engine efficiency? And how to manage the fuel economy?. Etc...So, the objective of this project work was to gain a better understanding of the efficiency characteristics of engine with inlet air pre heater. For this purpose, the effect of inlet air pre heater orientations, no. of testing, types of sophisticated fuel, types of material used for the purpose of inlet air pre heater have been investigated. In this project, we modified the air intake into the cylinder of four stroke air cooled IC engine of 2 wheeler, to improve the fuel vaporization rate, proper combustion &increase the fuel efficiency. The preheating of intake air is achieved by introducing an air pre-heater in the exhaust pipe (silencer) of the vehicle. Fresh air takes heat from heated silencer and this heated air send at air chamber. Because of this heating of air fuel vaporization rate gets increases which results in above advantages.

ICAMCCT_168: COMPARATIVE ANALYSIS OF MACHINING CHARATER AND GEOMETRICAL QUALITY OF DELRIN USING HARD COATING AND HSS DRILL BITS

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Abstract - The high-temperature polymers like Acetal homopolymer (Delrin) currently have a wide variety of use. They are quite often utilized in traditional components to reduce weight, cost or meet a specific application requirement, and so on. Some of preferred uses of such polymers include aircraft interiors, wire insulation, wire couplings and fixtures, and so on, particularly at high temperature applications. The machining process like drilling may affect the near net shape of the final product. This experimental study is to be done through experimentation and optimization for identifying the suitable tool and optimum parameters for drilling of Delrin polymer under dry conditions to achieve high surface finish. The three levels of parameters such as spindle speed (N), feed rate (f), and tool pecking (P) are taken as control parameters of the response variable. Two different commercially available tool materials namely high-speed steel drill tool and PVD coated drill bit are accounted in experiments. L9 orthogonal array is initially taken for the experimentation in CNC drilling setup. Finally to be compare and optimized the machining and geometrical quality characteristics which one tool is highly performed during the machining of Delrin polymer.

ICAMCCT_169: OT FOR REMOTE PET FEEDING AND MONITORING

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Abstract - We own pets for their companionship gives us emotional support. It helps to reduce our stress and sense of loneliness. We treat pets as part of our families. We always want to take good care of our pets supplying timely nutritious food. Often times we may not be able to supply food timely to our pets. The Internet of Things (IoT) technology can improve quality of life by intelligently connecting physical devices through internet. We here investigate the application of IoT to automate the process of pet feeding. We use two feeders one for solid food and one for liquid food. The dispenser of solid food is controlled by a DC servo motor and that of liquid food is controlled by a DC solenoid valve. The motor and solenoid valve will be controlled by ATSAMD21 chip microcontroller. A ublox WiFi module is used along with the microcontroller to enable the connection of actuators to the internet. A camera module is also used so that the owner of the pet can monitor remotely the pet's activities. The owner of the pet can control the pet feeders from anywhere in the world and also can monitor his pets, through any internet enabled device like smart phone. The process of pet feeding can also be automated by the owner by configuring the microcontroller appropriately.

Key Words: Pet Feeder, Internet of Things, IoT, Automation, Dispenser, WiFi.

ICAMCCT_170: LEUKEMIA BLOOD CANCER DETECTION USING MACHINE LEARNING MATLAB

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Abstract **-** For this project with the help of image processing technique we will detect Leukemia using microscopic image various image processing technique are used for identification of red blood and immature white cells. At the moment, identification of blood disorder is through visual inspection of microscopic images by examining changes like texture, geometry, colour and statistical analysis of images. Leukemia is one of the leading causes of death among human. Its cure rate and prognosis depends mainly on the early detection and diagnosis of the disease objective of this project will be to detect the leukemia affected cells and count it. According to detection of immature cells leukemia can be identified and also define that either it is chronic or acute. To detect immature cells number of methods are used like histogram equalization, linear contrast stretching, some morphological techniques like area opening, area closing, erosion, dilation. Watershed transform k-means, Histogram equalization and linear contrast stretching and share based features are accurate 72.2%, 72%, 73.7 and 97.8% respectively. For this project we will be using MATLAB software for detection of leukemia cells in the normal blood cells. This concept doesn‟t require any medicinal device or a person skilled in medicinal field. Require almost no man-power. This technology can come to use in detection many other disease like anemia, malaria, deficiency of vitamin B12, brain tumor detection etc.

Keywords:Color space transformation, multi-class segmentation, white blood cell segmentation, weighted loss function.

ICAMCCT_173: AN EXPERIMENTAL STUDY ON THERMO-PHYSICAL PROPERTIES OF COPPER OXIDE-COCONUT OIL NANOFLUIDS

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Abstract **-** Lubrication is an art that has been practiced for thousands of years from the early days of human civilization. The utilization of lubricating oil in India is of the order of 1.8 million tones and is growing at around 5.2% annually. The performance of such huge quantity of lubricants at high temperatures directly affects global energy consumption, wear and tear of machine and vehicle components. For this reason, enhancing the thermo-physical properties of lubricants is imperative which are mainly employed to reduce friction and wear of various machine elements. Recently, the homogeneous dispersion of nano metals and metal oxides additives has been a well-known practice to enhance the thermo-physical properties of lubricants. This project work is aimed to develop different concentration of nanofluids and estimate their thermo-physical properties for lubrication applications. The dispersion stability of hybrid nanofluids can be estimated by sedimentation test and thermo-stability is determined by Thermo Gravimetric Analysis (TGA) and Differential Scanning Calorimetric (DSC) techniques. Further, temperature dependent lubricating properties such as density, kinematic viscosity and thermal conductivity are estimated by pycnometer and rotational viscometer and thermal conductivity meter respectively.

ICAMCCT_171: AN TOPOLOGICAL ADAPTIVE AD-HOC ONDEMAND MULTI PATH ROUTING PROTOCOL USED TO SUPPORT QOS FOR HIGH SPEED MANET

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Abstract **-** The mobility and resource limitation of nodes are the critical factors that affect the performance of Mobile AD hoc network (MANET). The mobility of nodes will affect the stability of links, and the limitation of node resources will lead to congestion, so it is very difficult to design a routing protocol that supports quality of service (QoS) in MANET. Especially in the scenario of high-speed node movement, frequent link interruption will damages QoS performance, so it is necessary to design MANET routing protocol that can adapt to network topology changes to support QoS. In this paper, we propose a Topological change Adaptive Ad hoc On-demand Multipath Distance Vector (TA-AOMDV) routing protocol, which can adapt to high-speed node movement to support QoS. In this protocol, a stable path selection algorithm is designed, which not only takes node resources (residual energy, available bandwidth and queue length) as the path selection parameters, but also considers the link stability probability between nodes. Furthermore, in order to adapt to the rapid change of topology, link interrupt prediction mechanism is integrated into the protocol, which updates the routing strategy based on periodic probabilistic estimates of link stability. Different scenarios with node speed in the range of 10-50m/s, data rate in the range of 4-40kbps and number of nodes in the range of 10-100 are simulated on NS2 platform. Our results show that the QoS metrics (packet delivery rate, end-to-end delay, and throughput) of the proposed protocol are significantly improved when the node speed is higher than 30m/s although it is slightly better when the node speed is lower than 30m/s. Our on-demand multipath routing protocol demonstrates high potential to support QoS for high-speed MANET.

Keyword: Mobile ad hoc network , link stability , QoS , multipath routing , cross layer

ICAMCCT_174: TWITTER BASE SENTIMENTAL ANALYSIS FOR GOVERNMENT SCHEME USING MACHINE LEARNING APPROACH

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Abstract - The internet has provided many novel ways for people to express their ideas and views about different topics, ideas and trends. The contents generated by the users which are present on Various mediums like internet blogs, discussion forums, and groups paves a strong base fordecision making in diverse fields such as

digital advertising, election polls, scientific predictions, market surveys and business zones etc. Sentiment analysis is the process of mining the sentiments from the data that are available in online platforms and categorizing the opinion towards a particular entity that falls on three different categories which are positive neutral

and negative. In this project, the problem of sentiment classification of review dataset in twitter has been addressed. The users in Twitter express their sentiments or points of view by tweets concerning different topics in variety of fields, such as politics, commercial products, etc. This important information is exploited by sentiment analysis tools. Clustering algorithms are one of the used solutions to discover the sentiment provided by users in tweets. However, knowing that the users' sentiments are generally divided into three categories: positive, negative, and neutral. The algorithm proposed helps to cluster the tweets. A comparison with several other algorithms are done in this work.

ICAMCCT_181: EXPERIMENTAL INVESTIGATION OF COPPER TUBE INSERTED BUILDING ROOF FOR COOLING

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Abstract - Roof-top cooling systems have been developed and implemented to reduce the heat gain through roofs so that conventional cooling systems can be reduced in size or eliminated. Currently, roof-spray systems are achieving greater

effectiveness due to the availability of direct digital controls. The objective of this project is to develop a new model of the heat transfer through a roof with copper and aluminium tube enclosed at the top for circulating the coolant. The coolant

may be used as water or some specific type. Cooling roof that predict the heat transfer based on existing weather data and roof heat transfer characteristics. The heat transfer rate of existing roofing system is compared with this proposed model

by analyzing the obtained output heat transfer rate. This may yield moderately good predictions of heat transfer through the roof experimental results for the roof top cooling condition.

ICAMCCT_175: BLUETOOTH BASED HOME AUTOMATION SYSTEM USING MOBILE PHONE

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Abstract **-** Electronic devices and appliances have become very common in this recent year of technology especially with fast development in smartphones. In this paper, the design of Home Automation System compatibly with local housing and good features for home automation via remote access are presented. Bluetooth Based Home Automation System using android and arduino is design and implemented. In this research work a part of smart home technology which using Bluetooth in a mobile device is used, so it will cheap and efficient to use. This paper describe about home automation system which would use to enable home lighting, garage door motor, water pumping motor and smoke detection using a smart phone application with Bluetooth wireless technology. The system included three main components: an Arduino microcontroller for connecting the appliances, a Bluetooth module for signal transfer, and a smartphone with the Android application to control home appliances. Bluetooth technology and controlled system is that the operating range is low but it can controlled from anywhere inside of home, By using smart phone application we can control household appliances and provide security to decrepit peoples. The idea of paper is to control the home appliances to avoid the dangerous of electric shock and convenience of decrepit and physically disable people, who can easily access and control the home appliances by staying at particular places and access them remotely without the help of other people. By using this system, our home automation works smartly by providing increased quality of life, and comforts to users.

ICAMCCT_117: THE TRIBOLOGICAL PROPERTIES OF WATER BASED TITANIUM DIOXIDE NANOFLUIDS R.A. Arul Raja[1], Dr.J.Sunil[2]

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Abstract **-** The use of nanoparticles as oil additives and lubricants is a recent idea. Numerous nanoparticles have been investigated in recent years. The utilization of oil additives as nanolubricants presents many advantages, as they are relatively insensitive to temperature, and tribochemical reactions are limited, compared to traditional additives. In this study, the tribological properties of TiO_2 nanoparticles used as an additive in water were evaluated on a four-ball tribometer and the worn surface was investigated by polarized microscope using pass energy of 188 eV and Mg Ka line excitation source with the reference C1s at 284.6 eV and their inferences are discussed in details

ICAMCCT_176: IMPROVING OVERALL EQUIPMENT EFFECTIVENESS IN WELDING ROBOTS BY ADDING ADDITIONAL POSITIONER

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Abstract - The Aim of this paper is to improve the Overall Equipment Effectiveness in welding robots by adding additional positioner.OEE is a tool to evaluate the effectiveness of the equipment as well as efficiency of the organization in utilizing other resources such as manpower and materials.The time is recorded for complete operation of welding the operation includes setting of components,making tag weld in required structure,then feed in positioner of robot to make full welding. In this the idle time is going to utilize for increasing the OEE by using a theory called SMED(Single Minute Exchange of Dies) the idle time of robot is due to setting of job in a positioner.It takes some time so that while setting a job in one postioner the robot has to weld the another job in another postioner. The aim of this paper is to design the new positioner and to fix it in opposite side of the old positioner. The development added in that new postioner is to reducing the weight of fixtures and to adding spacers to sense easily by the robot where to weld without incomplete welding in job.The OEE is calculated before the new postioner is 63% the OEE is calculated after the new positioner is 83% .20% of OEE is increased.For this project value stream mapping is calculated to get a proper result.

Key words: OEE(Overall Equipment Effectiveness), SMED(Single Minute Exchange of Dies), Positioner, Fixtures, Value Stream Mapping.

ICAMCCT_118: THE MECHANICAL BEHAVIOR AND LIFE CYCLE ANALYSIS OF BASALT FIBER

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Abstract - Basalt fiber is a material made from extremely fine fibers of basalt, which is composed of the minerals plagioclase, pyroxene, and olivine. The moisture absorption of BF for 24 h is less than 0.02%, whereas for glass it is 1.7%. The strength distribution of tempered multifilament roving was nearly Gaussian. The influence of thermal exposition on the shear modulus of the individual basalt filaments removed from roving was tested. It is clear from the experimental results that the increasing the time of tempering leads to the acceleration of structural changes and drops in strength.

ICAMCCT_177: SENSECROWDAI : A DEEP LEARNING MODEL TO PREDICT THE HUMAN CROWDS

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Abstract - The detection and analysis of human crowds have been widely used from urban design and traffic management to disaster evacuation and mobility prediction. Currently, several common methods of crowd flow detection have different performances in terms of accuracy, cost and scope of application. One of the main reasons for the difference is that the technology or equipment used to detect crowd flows are different. Since human movement has a strong randomness, technically it is not an easy task to realize exact crowd counting. However, the corresponding people counting applications have remarkable business values. For example, we can provide recommendation services dynamically based on the current number of people in the queue. Similarly, the number of customers in a store can be indicative of the peak sales in a store. The above applications reveal good business prospects of head count detection. Therefore, many human recognition applications have emerged and gained popularity. These applications are implemented mainly based on two types of techniques: video-based recognition and signal-based recognition. In practice, the detection of the number of people suffers from numerous factors, for example, a change in the environment and human interaction. Most of these factors are random. In our model, we detect the number of persons along the line of- sight path from the receiver to the WiFi AP. For scenarios with people standing in a line, we propose a HFD scheme that can be applied to detect the number of queuing people in dynamic scenarios, such as queues of withdrawals in a bank and queues of payments in a mall, which can then be utilized to provide appropriate recommendation services. HFD is a complete number detection scheme. First, we use a denoising method based on sliding window to remove the outliers. Then following the analysis of CSI amplitude, we can determine whether someone is in the current scene. When someone is present, the relationship between the feature and the number is analyzed from CSI. We explore advanced deep learning tools, in particular, LSTM for this application context and with good classification effect is used to identify the number of people in the current queue.

Key Words : AP - Access Point, HFD - Human Flow Detection, CSI - Channel State Information, LSTM - Long Short-Term Memory Network.

ICAMCCT_178: VIBRATIONAL SPECTRAL INVESTIGATIONS AND THEORETICAL INVESTIGATION OF 2- CHLORO-4-PYRIDINECARBONITRILE

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Abstract **-** Pyridine derivatives have wide applications because of their activity, It also exhibits biological active properties such as antibacterial, antiviral, antifungal and antitumor. In the present investigation, 2-chloro-4-pyridinecarbonitrile was investigated in terms of structural, vibrational spectroscopic and theoretical analysis. All the theoretical calculations were done in B3LYP/6-311++G(d,p) level . The NBO analysis has been carried out to understand the probable charge transfer interaction present in the molecule. Additionally, the HOMO and the LUMO energies are calculated using B3LYP/6-31G(d,p) to determine the intra molecular charge transfers (ICT) within the molecule and the kinetic stabilities for each phase.The molecular electrostatic potential surface (MESP) has been plotted and estimate the reactive sites of electrophilic and nucleophilic attacks of the molecule. The potential energy distribution (PED) has been calculated using VEDA4 program and vibrational assignments of the experimental spectra (IR & Raman) have been elucidated using the calculated vibrational spectra

Keywords: Molecular structure, FT-IR; FT-Raman; HOMO-LUMO, DFT; MESP

ICAMCCT_184: EFFICIENT VIDEO COMPRESSION USING DWT

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Abstract **-** Video compression is a method of reducing the transmitting size of the video which is mainly used for the transmission of the video in between sender and the receiver. The main use of video compression includes video broadcasting, video conferencing, automotive, consumer, and many other application. In this paper we proposed a video compression using new improved DWT algorithm. The existing Discrete Wavelet Transformation (DWT) is a fastest computing method of wavelet transformation. The proposed method overcomes the existing Discrete Cosine Transform (DCT) and DWT .The lossy compression method is used for improving the efficiency of video compression. The proposed system has been developed using Discrete Wavelet Transform (DWT) algorithm, MATLAB, XILINX platform and FPGA SPARTEN 3 board. This architecture of DWT is described and synthesized using system c language, and result is obtained by implementing design on FPGA. The proposed algorithm enables memory saving along with increasing signal to noise ratio, and the overall performance of the system is calculated.

ICAMCCT_185: HUMAN EMOTION IDENTIFICATION : A REVIEW ON BLUE EYES TECHNOLOGY

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Abstract - Emotions are so important that it is an necessary part of human life and without human emotions the world becomes frozen. In this era, building machines with emotions has huge demand. A technology that sense human emotions and a feeling through gadgets is named as blue eyes technology. The blue eyes technology is an Artificial Intelligence technology that aims to provide human capabilities to a machine. The ultimate aim of the blue eyes technology is to make a computer that behave like a human so that the system can automatically interact with humans through dialogue, facial expressions and physical touch. Blue Eyes technology is implemented using cameras to perceive the outside world, voice recognition software to recognize the voice input and biometric sensors to sense the emotional levels of humans. In this technology ,human emotions are identified using the mouse which verifies human identity and start interacting with humans. This paper presents a detailed review on blue eyes technology for human emotion identification. ***Key terms:*** blue eyes, emotions, images, image processing, sense

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ICAMCCT_186: DESIGN OF MEDICINAL MONOCOPTER

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Abstract - Drones or quad copter has become a part of our life, because of its wide application in several fields. But yet multirotor drones are difficult to control and stabilize, they require a skilled person to operate them. Apart from their vast applications they have very few hours of hovering or steady flight time. To overcome all these drawbacks monocopter have been used but they are still under the research to develop commercial uses. In this paper, monocopter is designed to

overcome the drawbacks of the drones and they are used for detecting the heartbeat, temperature and overflow of blood from the crash or stroke victim. This monocopter is equipped with heart beat sensor, temperature, IR, Ultrasonic sensors and camera. This monocopter is modeled in CATIA V5R21. The NACA series 0012 has selected for propeller, Blade element theory is used to develop a propeller then it is analyzed in ANSYS 2020R1 (student version). DFMA has been adopted for developing the structure, to overcome the drawbacks of construction and cost reduction. ***Key Words:*** Monocopter, heartbeat sensor, Crash victims

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ICAMCCT_187: AN INVESTIGATION OF MECHANICAL PROPERTIES OF A16082 HYBRID METAL MATRIX COMPOSITES

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Abstract - Aluminum metal matrix composites (AMCs) are attaining global attention nowadays in the field of aerospace , automobiles , marine , construction etc. due to their superiority over monolithic alloys which includes mechanical and physical properties like low density , high specific strength , stiffness , elastic modulus strength to weight ratio etc. Chicken eggshell (ES) is an aviculture byproduct that has been used as the reinforcement in the present study which is recorded worldwide as one of the vilest environmental problems . Eggshell is a solid waste , with production of several tons per day . Eggshell is mostly sent to the landfill with a high management cost . It is economical to transform the eggshell Waste to create new values from these waste materials . The present article is an attempt to summarize the possible applications of eggshell . The present work deals with development of Al 6082 matrix composites by Crucible - casting process . A present experiments aim at developing aluminum based hybrid metal matrix composites containing (ZrO2-0 % , 2 % , 4 % & Egg Shell -0 % , 3 % , 5 %) of reinforcements with constant 1 % Mg and it's evaluate their mechanical properties . End DO DD Tools Mobile View Share Edit on PC School Tools.

ICAMCCT_188: OPTIMIZATION OF BIODIESEL FROM CUSTARD APPLE OIL

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Abstract - Now a day's increasing in prices and depletion of fossil fuels, creates very necessary to find out an alternative fuel (biodiesel) from non-edible oil seeds. This paper deals with the transesterification of custard apple seed oil by means of methanol in presence of potassium hydroxide catalyst at less than 65 C. The viscosity of biodiesel produced from custard apple see oil is characterized by GC (gas chromatography) analysis and the important properties of biodiesel such as density, flash point, cloud point, pour point and compared with that of ASTM-biodiesel standards and commercially available diesel. The study encourage the production of biodiesel from Custard Apple seed (Annona squamosa) Oil and value addition of custard apple fruit. Key words: biodiesel, custard apple seed oil, transesterification.

ICAMCCT_189: FABRICATION OF ROBOTS FOR NASA's SPATIAL RESEARCH

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Abstract **-** NASA proposes to develop a common infrastructure with respect to ranging rover for all its forthcoming space exploration missions. This infrastructure called the Interplanetary Internet (IPN) will take the Internet or any communication networks of the Earth to outside planets and facilitate in the efficient transfer of the huge amount of scientific data collected by the space probes back to Earth. The development of an efficient transport protocol(TCP) for the Interplanetary Internet is a major challenge to the research community. In this paper, a survey has been done for all the major transport protocols developed for deep space communication with the design of advanced techniques of robot rover. The paper discusses the infrastructure of the IPN along with the major challenges for deep space communication with image processed factors with respect to Infrared(IR). Emphasis has been made on the issues of transport protocol design for LEO-GEO based satellite networks and deep space communication networks. The genesis of the work on Interplanetary Internet and the evolution of the concept of Delay Tolerant Networks have been explained. An attempt has been made primarily to discuss all the major transport protocols and conventional approaches used for transport protocol design for deep space networks. The concepts related to IPN, DTN, Bundle Layer, Disruption Tolerant Networks, DTN Convergence Protocols, LTP, Saratoga, DS-TP, DTTP, ARC, TP-Planet, and CCSDS CFDP have been discussed.

ICAMCCT_196: HIGH-PERFORMANCE ECC PROCESSOR WITH UNIFIED POINT ADDITION ON TWISTED EDWARDS CURVE AND NOVEL DICTIONARY SELECTION ALGORITHM

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Abstract **-** A modified radix-4 interleaved algorithm is proposed to reduce the time complexity of conventional interleaved modular multiplication. With the swift evolution of wireless technologies, the demand for the security is rising immensely. Elliptic curve cryptography (ECC) provides an attractive solution to fulfill this demand. In recent years, Edwards's curves have gained widespread acceptance in digital signatures and ECC due to their faster group operations and higher resistance against side-channel attacks (SCAs) than that of the Weierstrass form of elliptic curves. In this thesis, a high-speed, low-area, simple power analysis (SPA)-resistant ECC processor is proposed with unified point addition on a twisted Edwards curve. Efficient architectures for modular multiplication, modular inversion, unified point addition, and elliptic curve point multiplication (ECPM) are proposed. To reduce the computational complexity of ECPM, the ECPM scheme is designed in projective coordinates instead of affine coordinates. It supports high-speed public-key generation using fewer hardware resources without compromising the security level, which is a challenging requirement for security.

ICAMCCT_190: HEART-RATE MEASUREMENT FROM FACEVIDEO

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Abstract - Pain is an alert state of the human body that can be conveyed to the external world through different modalities. A possible communication channel for human pain is represented by facial expressions, whose role in social interactions has been well established. Hypertension (high blood pressure) is the leading cause for increasing number of premature deaths due to cardiovascular diseases. Continuous hypertension screening seems to be a promising approach in order to take appropriate steps to alleviate hypertension-related diseases. Many studies have shown that physiological signal like Photoplethysmogram (PPG) can be reliably used for predicting the Blood Pressure (BP) and Heart Rate (HR). However, the existing approaches use a transmission or reflective type wearable sensor to collect the PPG signal. These sensors are bulky and mostly require an assistance of a trained medical practitioner; which preclude these approaches from continuous BP monitoring outside the medical centres. In this paper, we propose a novel touchless approach that predicts BP and HR using the face video-based PPG. Since the facial video can easily be captured using a consumer grade camera, this approach is a convenient way for continuous hypertension monitoring outside the medical centres.

ICAMCCT_194: SMART TELEDERMATOLOGY PLATFORM WITH AI ENABLED DISEASE PREDICTING SYSTEM

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Abstract **-** Telehealth is the distribution of health-related services via electronic information and telecommunication technologies. It allows long distance patient and clinician to interact. Telehealth system proposed in this project can be effectively used in diagnosing skin related disease as it is visible through camera. Visual Similarities observed in case of skin diseases such as nevus, seborrheic keratosis and melanoma are difficult to identify. If the people in rural areas are not treated properly then it may lead to cancerous diseases. So, what if a person can get his/her skin related problem diagnosed by visiting the nearby clinic/hospital. To address this problem a teledermatology system is built for proper communication between a primary care clinician in a remote location and a super specialty hospital physician in city for a second opinion. The physician can check the patient's skin disease and identify the disease. This overcomes the distance barriers and improves the health care facility and medical services that would be often not be consistently available in distant rural communities. Also, there is an Artificial Intelligence tool, built to predict the kind of diseases from the live feed of the patient.

Keywords: Telehealth, Teledermatology, Artificial Intelligence, Melanoma, Skin disease.

ICAMCCT_191: A PERSONALIZED GROUP BASED RECOMMENDATION APPROACH FOR WEB SEARCH IN E-LEARNING

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Abstract - Predictive learning analytics is an emerging as a research area with the promise of helping instructors. The learns styles are analyzed using the feature extracted from the dataset of the student. Analysis and detecting the dirty data is one of the challenges and if it leads to a failure it results in inaccurate values and improper decision. The main intension of data cleaning is to reduce the time and complexity of mining process to increase the quality of data. As it removes the dirty data, the performance of the process has been deliberately improved and unwanted information has been removed. At the same time, the duplicate data and the information has been removed which increased the efficiency of the process. The experimental results shows the accuracy level and the implementation analysis in a a prominent way. We further introduce a repair method. SVM and K Means suggest possible repairs. So that the exact values and the data of students can be effectively managed and implemented. The unprecedented growth of the Internet, its pervasive accessibility, and ease of use have increase students dependencies on the Web for quick search and retrieval of learning resources. However, current search engines tend to rely on the correct keywords. This excludes other characteristics, such as the individual's learning capability and readiness for specific learning material. As a result, the same set of search-keywords delivers the same search result. This situation hinders the optimization of the Web search engines in supporting the heterogeneity of its users in their learning endeavors. This paper aims to address the issue. It attempts to augment Web search engines with personalized recommendations of search results that our novel approach can provide a notable improvement in terms of performance and satisfaction for the students. Therefore, it is essential to augment the Web search engines with the ability to provide personalized recommendations of search results in the e-learning domain. In the paper, we present a personalized group-based recommendation approach for Web search in e-learning.

ICAMCCT_192: UNDERWATER OBJECT TRACKING USING HYBRID ADAPTIVE DEEP SORT WITH MODIFIED KALMAN FILTERING METHOD

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Abstract - Underwater object tracking and recognition are challenging due to the distinctive characteristics of underwater environments. As light passes deep in the sea, the underwater objects experiences diffraction and scattering. As a result, videos and photographs are vague and distorted geometrically, making interpretation difficult. Tracking the point of interest from successive frames in underwater scenarios often results in object occlusion. In order to overcome these problems, a modified kalman filter based identification and tracking scheme for distorted underwater objects is proposed. To extract and categorise the underwater object, the neural network-based training model is used. To evaluate the location of the objects in the underwater sequences, an adaptive deep SORT algorithm is used. The proposed method is compared to other state-of-the-art underwater object identification systems, and the blurred object detection for multiple view angles is quantitatively tested.

Keywords: Underwater Images, deep learning, underwater object tracking, deep sort

ICAMCCT_195: FABRICATION OF BIO-COMPOSITE HELMET (JUTE AND COCONUT COIR)

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Abstract - Recently, bio composite materials are synthesized using natural cellulose fibers as reinforcements together with matrix, which have attracted the attention of researchers due to their low density with high specific mechanical strengths, availability, renewability, degradable and being environmental-friendly. The present work attempts to make an improvement in the current existing helmet manufacturing methodology and materials used to have better mechanical properties as well as to enhance the compatibility between fibers and the matrix. The bio- composite are prepared with the unsaturated polyester matrix and fibers such as jute and coconut using hand lay-up method with appropriate proportions to result in helmet shell structure. The fabricated helmet are planned to evaluate its mechanical properties such as tensile strength, impact strength and compression strength. ***Keywords:*** Matrix, jute, coconut coir, helmet

ICAMCCT_202: FACILE AND ECO-FRIENDLY SYNTHESIS OF CDS QUANTUM DOTS FOR ENHANCING CORROSION INHIBITION OF ZN METAL PLATE IN VARIOUS ENVIRONMENTS

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Abstract **-** In this work, cadmium sulfide quantum dots (CdS QDs) has been synthesized via sonochemical green synthetic protocol with *Delonix elata* leaves water extract act as a capping and stabilizing agents. The phase, crystalline nature, structural arrangement, optical absorbance and electrical responses of the CdS QDs were studied using XRD, FESEM, HRTEM, UV-Vis analysis. The corrosion inhibition performance of CdS QDs corrosion inhibitor was tested in the presence of electrolyte mediums namely 1M HCl, 6M KOH, and 3.5% NaCl. The Tafel polarization curve shows that the corrosion rate of the zinc (Zn) plate is reduced when the plate were coated with CdS QDs under all aqueous electrolytes, particularly at a 3.5% NaCl medium.

Keywords: Cadmium sulfide quantum dots; Green synthesis; *Delonix elata* leaf extract; Anticorrosive behaviour; 3.5% NaCl medium

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ICAMCCT_160: AN EXPERIMENTAL ANALYSIS AND OPTINMIZATION OF FRICTION STIR WELDING ON AA6082 BY USING HEXAGONAL TOOL

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Abstract **-** Frictionstirwelding(FSW),asolid- tatejoiningtechnique,is being extensively used in similar as well as dissimilar joining of Al,Mg,Cu,Ti,and their alloys.In this research work, experiments has to be carried out on Al6082 of 4mm thick and L9 parameter using friction stir welding process with Hexagonal tool with various RPM ,and Axial Load. The FSW characteristics has to be analyzed through macro test & angle distortion ,bead geometry analysis. Parameter will be optimized through design of experiment b yusing Taguchi technique.

ICAMCCT_193: A NOVEL DECOMPOSITION METHOD FOR INFRARED AND VISIBLE IMAGE FUSION

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Abstract - Image decomposition is crucial for many image and satellite and medical processing tasks, as it allows to extract salient features from source images. A good image decomposition method could lead to a better and good performance, especially in image fusion tasks. We propose a multi-level image decomposition method based on latent low rank representation (Lat LRR), which is called MDL at LRR or in otherwise SVM. This decomposition method is applicable to many image processing fields. In this paper, we focus on the image fusion task. We develop a novel image fusion framework based on MDLatLRR, which is used to decompose also to classify source images into detail parts(salient features) and base parts. A nuclear-norm based fusion strategy is used to fuse the detail parts, and the base parts are fused by an averaging strategy. Compared with other state-of-the-art fusion methods, the proposed algorithm with classification exhibits better fusion performance in both subjective and objective evaluation. In this paper, we proposed a novel multi-level decomposition method with feature extraction (MDLatLRR) for image decomposition. We also developed an MDLatLRR-based fusion framework for fusing infrared and visible images. Firstly, a projection matrix L is learned by LatLRR. This matrix is then utilized to extract detail parts and base parts of the input images at several representation levels. With MDLatLRR, multi-level salient features are extracted. The final fused image is reconstructed also identified by adaptive fusion strategies designed specifically for dealing with the detail parts and the base parts, respectively. The MDLatLRR framework is general and can be used to provide an efficient decomposition approach for extracting multi-level features for an arbitrary number of input images. It can also be applied to other image processing fields with different projection matrix. The experimental results demonstrate that the performance of the proposed method is superior to that of existing methods. Furthermore, we also applied our proposed fusion method to a RGBT object tracking task. Even with the simplest combination of our fusion method and different trackers, the tracking performance was improved.

ICAMCCT_116: A COMPARATIVE STUDY OF HYDROGEN BOND INTERACTIONS AND INTERMOLECULAR CLOSE CONTACTS IN PHENYL SUBSTITUTED IMIDAZOLE DERIVATIVES

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Abstract **-** The imidazole ring, inspite of being substituted by the functional groups such as phenyl, trimethoxyphenyl and fluorophenylat different positions exhibits planar conformation in triphenyl imidazole (**TPI**) derivatives,4-(4,5-Diphenyl-1*H*-imidazol-2-yl)-N,N-dimethylaniline (**1**) and 4,5-Diphenyl-2-(3,4,5-trimethoxyphenyl)-1*H*-imidazole (**2**), and tetraphenyl imidazole (**TtPI**) derivatives,2-(3,4,5-Trimethoxyphenyl)-1-(4-fluorophenyl)-4,5-diphenyl-1*H*-imidazole (**3).** The hydrogen bond interactions, Hirshfeld surface analysis and inter molecular close contacts involved in the stabilization of crystal and molecular structures of **1**, **2** and **3** were compared.The Hirshfeld surface analysis of **1**, **2**, and **3** were carried out to visualize the hydrogen bond interactions and intermolecular close contacts which are responsible for the stabilization and formation of 3D supra molecular frame work in their crystal lattices.The hydrogen bond interactions were visualized through the dark red spots obtained on the Hirshfeld surfaces, as a result of hydrogen bond acceptors of types N1A— H1A···N3B in **1**; N1A—H1A···N1B, N3B—H3B···N3B, C10B—H10B···O2A and C23B— H23B···N3A in **2**; andC10A—H10A···O28A and C10B—H10B···O28B in **3**.The combination of d_e and d_i in the form of 2D fingerprint plot gives the summary of intermolecular contacts in the crystal lattice. The H···H short contacts appear almost as a single sharp spike of sky blue colour, in the region 0.98 Å < (*d*e + *d*i) < 1.02 Å in **1,** where as they appear as a blunt spike in the region1.05 Å < (*d*e + *d*i) < 1.12 Å in **2** and, as a pair of blunt spikes, almost of same length and close to each other in the region 1.10 Å < (*d*e + *d*i) < 1.20 Å in **3.**The C···H close contacts were seen as a two distinct and quite sharp spikes in the region 1.06 Å < (*d*e + *d*i) < 1.63 Å in **1**, but as a two wide and blunt spikes in the region 1.08 Å < (*d*e + *d*i) < 1.65 Å in **2** andasapair of two distinct, slightly curved and pen pointed like spikes in the region 1.05

Å < (*d*e + *d*i) < 1.57 Å in **3**.The N···H inter molecular contacts become noticeable as a two highly sharp elongated spikes in the region 0.76 Å < (*d*e + *d*i) < 1.14 Å in **1** and **2**, and as a two wide, sharp and fins like spikes in the region 1.18 Å < (*d*e + *d*i) < 1.59 Å in **3**.The crystal and molecular structures parameters of the three imidazole derivatives, **1**, **2** and **3** are compared. In all the three molecular structures, imidazole ring adopts planar conformationinspite of being substituted by the functional groups such as phenyl, trimethoxyphenyl and fluorophenyl at different positions. In the crystal structures of **1**, **2** and **3**, the molecules are stabilized majorly by N—H···N, C—H···O and C—H···N interactions. The close contacts, H···H, C···H and N···H which are responsible for the formation of three dimensional frame work in the crystal lattice of compounds, **1, 2** and **3** were visualized and analyzed *via* Hirshfeld surfaces.

Key words: Imidazole, molecular structure, hydrogen bond, Hirshfeld surface, intermolecular close contacts.

ICAMCCT_197: AN ECO-FRIENDLY SYNTHESIS OF BARIUM STRONTIUM TITANATE NANOPARTICLES: INVESTIGATION ON TIN DOPING ON STRUCTURAL AND OPTICAL PROPERTIES

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Abstract **-** This article reports a simple and green synthesis based solid state reaction method was used to prepare the Perovskite-type pure and tin doped barium strontium titanate ($BaSrSnTiO_3$) nanoparticles with moringa oleifera leaf extract as capping agent. BST and BSST nanoparticles were characterized by XRD, SEM with EDAX, FTIR, UV, PSA and electrochemical impedance spectroscopy analytical techniques. The structural, morphological, optical and electrical behaviours of BST and BSST nanoparticles are elaborately discussed. XRD analysis reveals the formation of single-phasic cubic perovskite structure with no impurity phases BST and BSST nanoparticles. FTIR study evidenced the formation of perovskite structure by demonstrating a noticeable band in lower frequency ranges. Debye Scherrer analysis was utilized to evaluate the crystallite size. The observed results indicate that the green synthesis of BST shows good crystalline, optical and electrical properties and also these properties could be tailored by tin doping with BST.

Keywords: Green synthesis; BST; Tin doping; Optical and electrical properties

AVCE_IJSRST_223: DEVELOPMENT OF OFFLINE CHAT APPLICATION

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Abstract **-** the purpose of this study is to develop an Offline Chat Service, by which a user can send a message in the absence of the internet, cellular data and signal. The Wireless Fidelity or Wi-Fi will serve as their access point to connect to another user, which can detect and pair into a different device as long as the other users are connected in the same network. But before the user can fully exchange messages; User B must accept User A's request to exchange messages, if User B declines the request, both users can search another device again to send a message. The mobile application can only pair into Android Devices

ICAMCCT_198: ENHANCEMENT OF CORROSION RESISTANCE OF MILD STEEL PLATE USING ZN/TI NANOCOMPOSITE FOR INDUSTRIAL APPLICATIONS

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Abstract - Zinc/Titania nanocomposite prepared by Sonication assisted Solid state reaction method. The prepared Zn/Ti nanocomposite has been employed to improve the corrosion resistance behavior of Mild Steels (MS) which are mostly used in sugarcane and paper making industries. The prepared samples were coated on MS plate using Doctor's blade coating technique and tested under sugarcane juice as an electrolyte. The physiochemical characteristics of the prepared Zn/Ti nanocomposite were evaluated by various characterization techniques such as X-ray diffraction (XRD), Fourier Transform Infrared Spectroscopy (FTIR), Scanning electron microscopy (SEM). The studies were undertaken to reveals the crystalline structure, adsorbance, bandgap and composition of the materials. The improvement of corrosion resistance of MS plate has been evaluated by Linear Sweep Voltammetry (LSV), electrochemical impedance spectroscopy (EIS). As from the obtained results, Corrosion resistance behavior of MS has been improved 85% by the prepared Zn/Ti nanocomposite coating on it. Thus the prepared Zn/Ti nanocomposite could be a potential candidate as corrosion inhibitor in various industries.

***Key Words**:* Zn/Ti nanocomposite, MS plate, Linear Sweep Voltammetry, Improved Corrosion Inhibition.

ICAMCCT_110: AUTOMATIC COVID-19 DETECTION USING CHEST X-RAY

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Abstract - In December 2019, a novel coronavirus first appeared in Wuhan, China, and quickly spread around the world. It has had a huge impact on daily life, public health, and the global economy. The emergence of this virus should be detected as soon as possible in order to prevent it from spreading, and those who have already been infected should be treated as soon as possible. In this research, a deep learning model of Coronavirus was used, which is a type of artificial intelligence. On high-resolution X-rays, this study established a deep learning model to detect COVID-19 pneumonia. There are three types of data is in our dataset: coronavirus, pneumonia, and normal X-ray imagery. The chest X-ray (CXR) is more difficult for early detection, but it is useful for tracking the progression of lung disease in critically ill patients in the intensive care unit (ICU). The implementation of a semi-quantitative CXR assessment has resulted from the addition of useful assistance to clinicians and the stratification of disease risk. Both severity scores and CXR results diagnosed early stage COVID-19 disease in this study At various stages of the illness. CXRs abnormalities were detected in 278 of 350 patients (78%) at certain points of the disease course.

ICAMCCT_199: FACILE SYNTHESIS OF COPPER DOPED CERIUM OXIDE NANOPARTICLES (CU: CEO_2 NPS): EVALUATION OF ANTIBACTERIAL ACTIVITY AND ANTICORROSIVE BEHAVIOR

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Abstract - This manuscript deals with the synthesis, characterization of copper doped cerium oxide nanoparticles (Cu-CeO_2 NPs) for antibacterial and anticorrosive applications. Cu-CeO_2 NPs were prepared via simple hydrothermal method. The XRD pattern shows the crystalline significance of the (Cu-CeO_2 NPs). The average crystalline size of Cu-CeO_2 NPs found to be decreased with increasing the concentration of Cu. The Ce-O chemical composition in Cu-CeO_2 was examined by FTIR. The FESEM analysis exhibit fascinating shapes like cube and square of nanoparticles. An optical property of nanoparticles was measured by UV-Vis spectrometer. Pure CeO_2 nanoparticles exhibit 3.62 eV as band gap energy whereas Cu doped CeO_2 nanoparticles showed 3.64 to 3.67 eV. Cu: CeO_2 NPs coated MS plate under acid environment shows 48.4% of improved corrosion resistance that uncoated MS plate. The Cu doped CeO_2 nanoparticles have good antibacterial effect against pathogenic bacteria. Therefore, Cu-CeO_2 nanoparticles could be used as a potential candidate for multifunctional applications.

Keyword: CeO_2 NPs; Cu:CeO_2 NPs; Hydrothermal synthesis; Multifunctional applications

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AVCE_IJSRST_222: A REVIEW ON INDUSTRIAL FIBRE HYBRID COMPOSITES FOR AUTOMOTIVE SAFETY APPLICATION

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Abstract - The FML is newest classification of metal and it is having more demand due to it higher mechanical and metallurgical property. Few materials can be produced by the diversity of behaviours which depends on the shape, cost etc. However, the fibre metal laminate is subject to imperfections, which are directed by various factors namely, skin type, core, treatment process, load and preparation method. The conceivable faults can be overwhelmed by the next care though the preparation of the materials as per the requirement. The fibre metal laminate is used to various demands less weight to more strength ratio like automobile sector, aeronautical, structure and marine applications etc.

Keywords: Treatment, FML, Aluminium, Fracture toughness, Composite materials, Corrosion, Laminate material.

ICAMCCT_104: AUTOMATIC BRAIN TUMOR SEGMENTATION ON PREOPERATIVE AND POSTOPERATIVE MRI

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Abstract **-** Postoperative MRI segmentation is necessary nowadays to create awareness among people who undergone surgery for brain tumor to avoid future recurrence of the tumor and to save their lives by earlier identification. Detection and segmentation of mixed necrotic and tumor tissue along with the neighboring vessels is a challenging scenario in radiation oncology application. The MRI image is an image that produces a high contrast images indicating regular and irregular tissues that help to distinguish the overlapping in margin of each tissue. All automatic seed finding methodologies may suffer with the problem if there is no growth of tumor and if any small white part or grey part is present there. Segmentation of images with complex structures such as magnetic resonance brain images is difficult using general purpose methods. Region based active contour models are widely used in brain tumor segmentation. But when the edges of tumor is not sharpen, then the segmentation results are not accurate i.e. segmentation may be over or under that may happened due to initial stage of the tumors. Here a method of tumor detection based on texture of the MRI and if it is detected then to segment it automatically using automatic seeded region growing method is proposed in to separate the irregular from the regular surrounding tissue to get a real identification of involved and non-involved area that help the surgeon to distinguish the affected area precisely. The methods used in this paper are texture analysis and automatic seeded region growing method and is implemented on MRI of brain to detect the tumor boundaries in 2D MRI for different cases.

Keywords **-** Brain tumor segmentation, Preoperative, Postoperative, MR Image, region growing, necrotic tissue segmentation, enhancing cell, radio surgery, radiotherapy.

ICAMCCT_213: AN EFFICIENT BEC-BASED APPROXIMATE CARRY-SPECULATIVE ADDER WITH LOW DELAY AND AREA FOR DIGITAL APPLICATIONS

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Department of Electronics and Communication Engineering

Abstract **-** Approximate computing can decrease design complexity with increase in performance and power efficiency. It eliminated all the redundant logic operations of the CSA and proposed a new logic formulation. Fixed input bits of the carry generator unit are also used for logic optimization. Using these optimized logic units, an efficient design is obtained for the CSA.

ICAMCCT_200: ENHANCEMENT OF MARINE CORROSION INHIBITION OF MILD STEEL BY FABRICATION OF ENVIRONMENTAL FRIENDLY CeO_2 COATING

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Abstract **-** The research work aims to provide some insight about the environmental friendly CeO_2 NPs coating on Mild steel plate for improving corrosion inhibition in marine environment. CeO2 coating on MS plate was prepared by spin coating technique. Scanning electronic microscope (SEM), energy dispersive X-ray spectroscopy with elemental mapping technique (EDS), X-ray diffraction (XRD) and Raman spectroscopy analysis were used to study the morphology, chemical composition, crystalline nature of the prepared CeO_2 NPs. Electrochemical methods such as Tafel polarisation and electrochemical impedance spectroscopy techniques are used to evaluate the corrosion resistance of the coatings in artificial seawater. CeO_2 NPs by spin coating technique have produce more uniform and compact structure and present a better corrosion protection of MS in artificial seawater. The result showed that the coatings exhibited good stability and the no. of coating of CeO_2 NPs greatly enhanced the microstructural properties, hardness behaviour and corrosion inhibition of MS plate in marine environment. In overall, advantages of spin coating of CeO_2 NPs on MS plate are clearly demonstrated.

Key words: CeO_2 NPs; Spin coating; Mild steel; Tafel polarisation; Impedance spectroscopy.

ICAMCCT_209: AN AUTOMATED APPROACH FOR MEDICAL IMAGE FUSION USING SPARSE REPRESENTATION MODEL AND GDGF

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Department of Electronics and Communicationn Engineering

Abstract **-** MMISF provides better visualization by integrating the image information from different medical images. It plays a vital role in the precise diagnosis of very critical diseases in medical field. Different imaging modalities are downgraded due to noise interference that leads to false diagnosis. This project proposes a novel fusion framework for multimodal neurological images. It based on NSST with sparse K-SVD dictionary learning and gradient domain guided filtering. It is able to capture small-scale details of input images with original structural details.

ICAMCCT_201: MONODISPERSE CERIA NANOSPHERES SYNTHESIZED BY ONE PHASE SYSTEM IN HYDRO-SOLVOTHERMAL METHOD: EVALUATION OF ITS ANTICORROSIVE PROPERTIES

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Abstract **-** Monodisperse ceria nanospheres were synthesized by one-phase system hydro-solvothermal method. The synthesized samples were characterized using UV-Vis, FTIR, PL, XRD and SEM techniques. The XRD pattern revealed the crystalline nature of the CeO_2. The Ce-O chemical bonding nature was confirmed by using FTIR. In addition CeO_2 nanospheres exhibit broad photo luminescent peak at 415 nm and sharp photo luminescent peak at 602 nm. SEM analysis clearly exhibits the fascinating shapes like a truncate cubic and sphere of CeO_2. The electrochemical analysis namely linear sweep voltammetry (LSV) and impedance spectroscopy (EIS) shows that the Lauric acid employed CeO_2 NPs exhibits higher anticorrosive property in 1M HCl medium compared with NaOH involved CeO_2 NPs.

Key Words: CeO_2; Lauric acid; Nanospheres; Anticorrosive property

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ICAMCCT_112: PROCESSINGAND PROPERTIES OFTITANIUM DIOXIDEREINFORCED COPPER COMPOSITE BY POWDER METALLURGY

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Abstract **-** Copper matrix composites are finding many applications due to goodelectrical and composites have been the subject of broad research because of their good mechanical, electrical and tribological properties. In the present research, Cu–TiO2composites containing 5, 10, 15and 20 wt% of TiO2have been fabricated by cold powder compaction. X-ray diffraction, optical microscopy and field emission scanning electron microscopy andwear Test. From microscopic study, we have found that TiO2particles.Copper matrix and there is good compatibility between TiO2 and Cu. The microstructure analysed by FESEM shows that the interface between Cu matrix and TiO2is clean and no interfacial product is formed. The effect of TiO2particles and their weight fraction on microstructure, mechanical properties and electrical conductivity is also studied.

Key words: Copper, TiO2, powder Metallurgy

ICAMCCT_204: DATA PUBLIC AUDIT SCHEME WITH LOAD BALANCING AND BLOCKCHAIN

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Abstract - Cloud storage services provide convenient data storage services for individuals and enterprises. Data owners can remotely access and update outsourcing data. But there are still many security problems, such as data integrity. Data sharing comes with a wide range of challenges broadly categorized as: data format and meaning; legal obligations; privacy; data security; and concerns about unintended consequences of data sharing. This creates the need to develop sharing frameworks which address technical challenges, embed regulatory frameworks, and anticipate and address concerns as to fairness and equity of outcomes in order to maintain trust of consumers and citizens. The Project proposes a in this framework combined multiple algorithms, are Load Balancing Algorithm to avoid duplication, Message Digest Algorithm (MD5) finally we used Blockchain (Distributed Hash Table (DHT)), to avoid malicious auditor. Block chain are inherently answers the major issues of trust, data accuracy and reliability, it goes on to provide a novel solution for data sharing.

ICAMCCT_205: A SECURED HIGH PERFORMANCE DEEP LEARNING TECHNIQUE FOR AN EFFICIENT TRANSPORTATION IN VEHICLE TO VEHICLE COMMUNICATIONS

M.S.Bennet Praba, Dr.J.Femilda Josephin

SRMIST

Abstract - VANET allows an efficient and comfort transportation to drivers and passengers. Security is the primary challenge for automakers and other stakeholders. Connected vehicles depend on wireless and cellular communication interfaces. So trust and security is open challenge for researches Different types of attacks can violate and interrupt the connection since there are flaws or anomalies in typical communication systems. Threats and attacks were reviewed for safety transportation and many standard protocols were proposed to improve the security in VANETS. But still there are some drawbacks and Quality of Service parameters have to be improved. Attacks can be categorized as Falsification of information, Denial of service (DOS), Impersonation, Violation of privacy, Information handling. VANET authenticity requirements faces threats includes Masquerading, Global Positioning System, Replay Attack and Tunneling. Various attacks like Denial of Service, Distributed Denial of service, Confidentiality, etc are open in VANET that are transferred between vehicles in VANET. Mitigating the threats and attacks are open challenges for researchers. The existing Intrusion Detection Systems suffer from generating high rate of false alarms which is considered as one of their main disadvantages. Quality of Service metrics such as latency time, throughput, and packet losses rate have to be improved. To overcome these limitations an efficient high performance deep learning algorithm is proposed, which identifies the malicious node and transfer the data in a secured path in an efficient manner.

Keywords: Intrusion Detection Systems, Deep Learning, Security, VANET, Attacks

ICAMCCT_203: FACILE AND SCALABLE SYNTHESIS OF ZNS AND TIN DOPED ZNS NANOSTRUCTURES: A STUDY ON ELECTROCHEMICAL PROPERTIES FOR CORROSION APPLICATIONS

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Abstract - A facile and scalable green synthesis method is used to prepare zinc sulfide and tin doped zinc sulfide nanostructures using *Moringa oleifera* leaf extract a reducing and capping agent. The crystal structure, phase purity, surface morphology, optical and electrical properties, and corrosion properties of prepared nanostructures were studied using X-ray diffraction (XRD), Fourier transform infrared (FTIR) spectra, UV–vis spectrophotometer. Nanostructured coatings offer great potential for various applications due to their superior characteristics that are not typically found in conventional coatings. This research aimed at developing properties such as stability improved coating that employs ZnS and ZnS: Sn as the agent to achieve corrosion resistant properties for a coating. The research project discusses on its corrosion behaviour of ZnS in 3.5% NaCl media by measuring its corrosion rate. Mild carbon steel was used as the substrate for the ZnS and ZnS: Sn coating. The obtained results showed that the ZnS and ZnS: Sn nanostructures prepared by using *Moringa oleifera* extract acts as a good inhibitor for the corrosion of mild steel in 3.5% NaCl solution.

Keywords: ZnS nanostructures; Green synthesis; corrosion applications; 1M HCl

ICAMCCT_105: SOFTWARE METRICS BASED ERROR DATA ANALYSIS FOR SOFTWARE PROCESS IMPROVEMENT

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Abstract **-** The object is to establish a framework to detect the error prone modules of new software from the data of existing software. This will provide the first cut information on the error prone modules so as to enable us to redirect our focus of verification and validation towards through the modules. The software metrics vs error data for software A is known from the historical data repository. Given the software metrics for a new software B,the probability of module have an error needs to be detected. This is accomplished using data mining & machine learning algorithms. Software Defect Prediction (SDP) aims to identify fault-prone software modules in order to allocate limited resources for software reliability in a cost-effective manner. However, it remains difficult to develop an efficient SDP model for multivariate and limited data. Due to their inherent imbalance in data distribution, it is easy to generate a lot of good class mapping rules, but it is easy to ignore bad class mapping rules. This methodology can be used as a Quality Assurance tool to provide feedback for improving the software process. This paper proposed a modified naïve Bayes algorithm for the SDP purpose, it employs the existed algorithms to have a high performance, that are the J48 and OneR for the feature selection and prediction purpose With the utilization of various performance analyses such as accuracy, precision, recall, sensitivity, specificity, and kappa, the results obtained has proven that the proposed technology provides better results than existing techniques.

Keywords: Software metrics, Defect Prediction, Naïve Bayes Algorithm,J48,OneR

AVCE_IJSRST_146: DETECTING DRIVER DROWSINESS USING DEEP LEARNING TECHNIQUES

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Abstract **-** Drowsiness detection is a safety technology that can prevent accidents that are caused by drivers who fell asleep while driving. The objective of this project is to build a drowsiness detection system that will detect that a person's eyes are closed for a few seconds. This system will alert the driver when drowsiness is detected. In this Python project, we will be using OpenCV for gathering the images from webcam and feed them into a Deep Learning model which will classify whether the person's eyes are 'Open' or 'Closed'. The approach we will be using for this Python.

Keywords: OpenCV, TensorFlow, Keras, pygame

AVCE_IJSRST_101: IMPLEMENTATION OF ERC20 TOKEN USING SMART CONTRACT WITH BLOCKCHAIN TECHNOLOGY

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Abstract **-** The blockchain technology has been an essential part due to its decentralization and security, some of its applications are decentralized voting system and transactions. The most important feature of blockchain is smart contract. The smart contract are the lines of code similar to agreement that runs on the top of blockchain to execute a process. Solidity is a common language used to design the smart contract and smart contract are stored in public database and execute automatically and cannot be changed once executed. Smart contract are not controlled by the user and they are deployed to the blockchain network and execute as programmed. Ethereum is a decentralized smart contract which runs on its own native platform.

Index Terms: Blockchain, Smart contract, Solidity, Ethereum

AVCE_IJSRST_102: THERMAL BARRIER COATING FOR AN INTERNAL COMBUSTION ENGINE WITH VARIOUS COATING MATERIAL AND ANALYSIS USING A 3D FINITE ELEMENT SOFTWARE

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Abstract **-** The aim of this project is to increase the thermal efficiency and reducing heat loss of the single cylinder CI Engine by introducing Thermal barrier coating (TBC) in inner cylinder of the combustion chamber. The TBC materials has low thermal conductivity and high thermal stability, hence they possess low heat transfer through the wall of the combustion chamber there by heat loss is reduced and thermal efficiency in increased. This design project will be executing in CAD/CAE software. Firstly, the engine is designed by using Creo Parametric 2.0 software. Secondly, a designed engine is analysed with and without TBC material in inner cylinder of the combustion chamber by using 3D finite element software (ANSYS). A comparison study is made by parameters such as temperature distribution and heat loss. Then finally, the results obtained from all thermal simulations are compared with each other.

Keywords*:* thermal analysis; thermal barrier coating.

AVCE_IJSRST_103: STUDY OF DISPERSION IN ELLIPTICAL CORE PHOTONIC CRYSTAL FIBER

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Abstract **-** Photonic crystal fibers (PCF) have attracted increasing interest over the past few years because of their ability to provide manipulation in optical properties of light. High birefringence can be easily achieved in PCFs based on design flexibility and the large index contrast. Amongst several designs high birefringence exceeding 10-3 has been shown. Birefringence of the PCF can be further improved by employing elliptical air holes in the fiber cladding and also by using certain material such as coumarin in place of air. In this paper an ultrahigh birefringent PCF with ultra low confinement loss is proposed by employing elliptical holes in the fiber core to induce the birefringence but circular air holes in the fiber cladding to reduce the confinement loss. Such a design is able to offer is able to offer a perfect solution to the tradeoff between the high birefringence and the confinement loss in elliptical-hole PCFs. MATLAB and COMSOL softwares has been used for the coding and simulation. The results provide a method for reducing confinement loss and suggest an approach for modify the effective index of the fiber core which is used for getting zero dispersion.

Keywords: PCF, Birefringence, Dispersion

AVCE_IJSRST_104: SMART SENSOR HELMET

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Abstract - Nowadays, advanced transportation technology and due to rise in the total number of vehicles, road accidents increases rapidly. At the same time, this advanced technology also increased the traffic hazards. Two wheelers accounts for 25% of total road accidents. Hence the ratio of road crashes that take place often increases causing immense loss of life due to poor emergency facilities. This paper provides an intelligent system to avoid two wheeler accidents and detection for human life safety. This proposed system includes a helmet controlled safety system where in the motorcycle ignition is enabled only when the helmet is put on and if a driver consumed alcohol is detected from the riders breath .We have used a pressure switch and a alcohol sensor for this purpose .In addition to this we have also proposed a mechanical locking system which prevents the use of kick start mechanism. A 315 MHz Radio Frequency Module as wireless link which able to communicate between transmitter circuit and receiver circuit. We have also used Arduino microcontroller to control the entire components in the system. Only when the rider put on the helmet then only the motorcycle's engine will start.

AVCE_IJSRST_105: ATM THEFT CONTROL SECURITY BY IRIS RECOGNITION TECHNIQUE

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Abstract - In recent times we are experiencing increase in number of fraudulence in the Automated Teller Machine (ATM) systems. This project is to overcome the theft difficulties and provide reliable security. In this system the specified person can only enter the ATM; by using the embedded system we can give access to authorized person using iris recognition modules and keypad. This system is going to be developed using microcontroller, whenever the person accesses the ATM, it asks for the iris recognition and PIN number before the transaction. The authorized person gets message in mobile through GSM technology during the transaction. Iris recognition module is interfaced with microcontroller and the PIN is entered through keypad. If the user puts wrong PIN number more than three times the door of the ATM will be locked automatically and the nearest police station will get alert message via GSM modem.

Keywords: Raspberry pi, Iris sensor, GSM, Buzzer alarm, Key pad, LCD display

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AVCE_IJSRST_107: NOVEL INTRUSION DETECTION TECHNIQUES FOR IOT ENABLED SMART CITIES

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Abstract- Internet of Things for sustainable resource management critical to safeguard the future network infrastructure from intruders. With the growth of connected things, the most-widely used centralized (cloud-based) IDS often suffers from high latency and network overhead, thereby resulting in unresponsiveness to attacks and slow detection of malicious users. In this paper, the ML models to detect the various attacks accurately. To develop parallel machine-learning models corresponding to a partitioned attack dataset. In the distributed case, the parallel models individually perform both the feature selection and multi-layer perceptron classification. The effectiveness of the proposed architecture by using machine learning algorithms SVM and NB to achieve the high accuracy and lowest building time performance.

Keywords- Internet of Things, Intrusion Detection System, Multi-Layer Perceptron, Suport Vector Machine, Navie Bayes, Meachine Learning.

AVCE_IJSRST_108: REVIEW ON HARDWARES USED FOR AN AUTOMATED ASSISTANCE SYSTEM FOR PHYSICALLY CHALLENGED

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Abstract **-** In the current scenario, Robots are in great scope in the field of Medicity, Industries and even in Human Assistance. Even though these are of great use, when it comes to field of human assistance, cost and space have their own impact. The main issue regarding robots in this field is Machine Man Interaction. Therefore, an assistance system with low space occupancy and low cost is definitely a great a project to be implemented. Hereby, an assistance system that is being controlled by brain signals being introduced where the robot (so called assistance system) can perform as per the human thoughts. This can be highly helpful for those who faces the issue with speech. i.e. dumped

Keywords: Electroencephalogram, Brain machine interface or Brain controlled computer, deep learning, robotic locomotion

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AVCE_IJSRST_225: NATURAL AIRCONDITIONING SYSTEM IN BUILDINGS USING PHASE CHANGE MATERIAL (PCM) AND GYPSUM WALLBOARD R

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Abstract **-** Research interest into the application of phase change materials (PCM) as energy storage materials in buildings has gathered momentum over recent years. PCMs utilizing latent heat produced during phase change transformation processes do attain higher energy density with small temperature difference than other storage media using sensible heat. One potential concept being pursued for minimizing cooling and heating loads is the integrated PCM wallboard system. This system is based on randomly mixing PCMs into wallboards. This study evaluates the concept of laminated-PCMs as integral part of wallboard system in building fabric. This novel approach of integrating PCMs promotes rapid transfer of latent heat, sharp response to indoor temperature, and minimizes multidimensional mode of heat transfer. It also facilitates production and recycling methods of wallboards. The investigation into the thermal performance of the laminated wallboard system was done numerically and experimentally. Through series of heat transfer simulations and under different sets of properties and conditions, the surface temperature variations were obtained. The temperature variations were then used to calculate the heat flux and the total amount of heat transferred in and out of the wallboard. For the purpose of comparison, simulations will be carried out for randomly mixed PCMs during heat storage and discharge processes

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AVCE_IJSRST_110: PERFORMANCE ANALYSIS OF SPECTRUM AND ENERGY EFFICIENCY IN MILLIMETER-WAVE MASSIVE MIMO-NOMA AND MIMO-OMA

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Abstract **-** Non-orthogonal multiple access (NOMA) is multiple access technology that is employed in the fifth-generation (5G) wireless communication systems since, it serve multiple users at same time and frequency. Based on the power level users are differentiated. It offers high energy and spectral efficient communication for growing different quality of service (QoS) requirements. Non-orthogonal multiple access (NOMA) has been recently considered in millimeter-wave (mmWave) due to its massive connectivity. Massive MIMO systems use large number of antenna to improve both the spectrum and energy efficiency. In this paper , we consider mmWave massive MIMO-NOMA system. As mmWave massive MIMO uses hybrid precoding (HP) for downlink to significantly reduce the number of radio-frequency (RF) chains without any performance loss, where hybrid precoding (HP) is a combination of analog and digital precoding. The cluster-head selection algorithm is used to select one user for each beam at first, to reduce error and then the analog precoding is designed according to the selected cluster heads for all beams to improve the array gain . Then, the digital precoding is designed by selecting users with the high channel gain in each beam is to reduce interference. Finally, the maximum sum rate is obtained by optimizing power allocation for mmWave massive MIMO-NOMA . Simulation results show that for the proposed algorithm the HP-based MIMO-NOMA can achieve higher spectrum efficiency by increasing the number of users in each beam and higher energy efficiency compared with other precoding technique in MIMO-OMA.

Keywords: mmwave, massive MIMO, NOMA, hybrid precoding, power allocation

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AVCE_IJSRST_106: A SURVEY ON ATTRIBUTE BASED ENCRYPTION TECHNIQUES

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Abstract **–** Cloud computing is a currently emerged computing paradigm . The data stored and transferred in cloud are enormous and valuable. Privacy and security becomes the significant factors in protecting the data. Fine grained ,scalable access control should be maintained in the cloud . Many schemes have been proposed and implemented for access control and security. In this paper we are going to explore various schemes for Attribute Based Encryption (ABE) and its various types.

Keywords **–** Access control, Attribute Based Encryption, Key policy, cipher text policy

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AVCE_IJSRST_111: CLASSIFICATION OF COMPUTER GRAPHIC AND PHOTOGRAPHIC IMAGES USING CONVOLUTION NEURAL NETWORK

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Abstract - With the tremendous development of computer graphic rendering technology, photorealistic computer graphic images are difficult to differentiate from photo graphic images. In this project, a method is proposed based on Maximum Likelihood Principle Component Analysis (MLPCA) image features to distinguish computer graphic from photo graphic images using the CNN classifier. Initially the color image is transform dimension into 128X128 and then converted into gray scale image .The grayscale image can given into a convolution layer has filter or mask operation can performed .The filtered image can be given into ReLU layer. ReLU layer changes the all negative actions to Zero. Maximum Likelihood Principle Component Analysis(MLPCA) can perform feature extraction and reduce the dimensionality of the image .Fully connected layer which are used to generate new features from the existing features.Softmax layer is a classification layer it can be used to classify the computergraphic images from photographic images. Experimental results using Columbia database show that the method achieves reasonable detection accuracy.

Keywords: Computergraphics (CG), Photographicimages (PG), Convolutional neural network (CNN), Image forensics.

AVCE_IJSRST_112: AUTOMATED TICKETING OF VEHICLE PARKING SYSTEM BASED ON EMBEDDED

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Abstract— Moving towards the development of smart city,various smart applications like smart home, healthcare, street lighting, parking system, waste management system etc. It can increase the quality of services in cities and can improve productivity and reliability. Out of these applications smart parking systems are an important part of it called smart cities. It solves the parking issue in urban areas and also avoid the roadside parking. Smart parking system allows the user quick access which helps in reduction of time in searching the parking spot, reduction in traffic congestion. It can be used to manage and regulates the parking systems and exhibit the parking lot at any given moment**.**

Keyword-Arduino uno ,automated ticketing for parking.

AVCE_IJSRST_113: COVID-19 RISK PREDICTION USING MACHINE LEARNING TECHNIQUES

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Abstract **-** Nowadays Machine Learning (ML) Techniques are used for accurate COVID-19 risk prediction. Several prediction methods are being popularly used to handle forecasting problems. In this paper the capability of ML models to forecast the number of upcoming patients affected by COVID-19 is presented because COVID-19 is considered as a potential threat to mankind. Various risk prediction factors of COVID-19 which performs well in forecasting the new confirmed cases, death rate as well as recovery rate are identified. Two standard forecasting models, such as Support vector Machine,(SVM) and Linear Regression(LR) have been used for prediction to forecast the threatening factors of COVID-19. The results produced by the above techniques proved it a promising prediction mechanism for the current scenario of the COVID-19 pandemic. Also the experimental results proved that the SVM performs better than Linear Regression.

Keywords: COVID-19, Support vector machine, Linear Regression, Machine learning Techniques.

AVCE_IJSRST_114: A REVIEW ON CLUSTERING: FROM WSNS TO IOT

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Abstract **-** Numerous Internet of Things (IoT) networks are made as an overlay over conventional adhoc networks like Zigbee. In addition, IoT networks can look like adhoc networks over networks that help gadget to-gadget (D2D) communication, e.g., D2Dempowered cellular networks and WiFi-Direct. In these adhoc types of IoT networks, effective topology management is a pivotal prerequisite, and specifically in massive scale deployment. Generally, clustering has been perceived as a typical methodology for topology management in adhoc networks, e.g., in Wireless Sensor Networks (WSNs). Topology management in WSNs and adhoc IoT networks has many design commonalities as both need to move information to the destination hop by hop. Consequently, WSN clustering strategies can probably be applied for topology management in adhoc IoT networks. This requires a study on WSN clustering techniques and researching their applicability to adhoc IoT networks. In this paper, we did a survey of this field dependent on the goals for clustering, like reduced energy utilization and load balancing, as well as network properties for effective clustering in IoT, for example, network heterogeneity and mobility. Moreover we examine the benefits and difficulties of clustering when IoT is integrated with modern computing and communication Technologies, for example, Blockchain, Fog/Edge registering, and 5G. This review gives valuable bits of knowledge into research on IoT clustering, permits more understanding of its design challenges for IoT networks, and reveals insight into its future applications incorporated with IoT.

Index Terms: IoT, Clustering, WSNs, Survey

AVCE_IJSRST_115: PRODUCTION OF BETEL POWDER FOR HUMAN INCREASING IMMUNITY FROM PORTABLE SOLAR DRIER FOR NOURISHMENT

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Abstract **-** Bioelectricity generation from organic wastes through the metabolic activities of microbes using MFCs is a promising Green Technology transforming Waste to Energy. Organic wastes from agriculture waste or are generated daily in large quantities in Port Harcourt metropolis from markets and homes. Baseline survey revealed huge quantities of these Betel Leaves Along With Nuts wastes. If these wastes are not collected regularly and disposed of properly, their accumulation may lead to serious health problems as they decay with time. Heaps of Betel Leaves Along With Nuts wastes are found in the market refuse dump, which is our sample collection site. It had close proximity to other places of business and residence. This study was therefore carried out using some Betel Leaves Along With Nuts wastes from Betel Leaves Along With Nuts. These are agriculture waste that are consumed daily by the people. Various weights of 4kg, 6kg, 8kg, 10kg and 12kg of each type of these agriculture waste were used. Results showed that the 12kg substrate produced the highest voltage. The pH, DO and BOD of the substrate solution decreased at the end of Day 7 for each weight. The electricity generated was capable of powering small portable devices such as cell phones, rechargeable torch, and electrical bulb of 2V.

AVCE_IJSRST_116: CARDLESS BANKING SYSTEM USING GSM AND BIOMETRIC AUTHENTICATION

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Abstract **-** The purpose of the paper is to get rid of traditional bugs and to implement the cardless transaction system. Nowadays ATM card, challan, a credit card is used for the purpose of money transaction. Implementing of cardless banking system help us to overcome the drawback such as losing of a card, fetching a new card, forgetting of card and no need to maintain cards. This can be done by using Biometric authentication and GSM technology.

Keywords: Biometric authentication, GSM, Cardless transaction, Arduino Uno, Embedded C, ATM card, Node MCU

AVCE_IJSRST_117: DESIGN AND DEVELOPMENT OF UNMANNED RIVER WATER TRASH COLLECTOR

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Abstract - Water is the most vital source for sustainability of life. River water quality in rapidly urbanizing Asian cities threatens to damage the resource base on which human health, economic growth and poverty reduction all depend. This project emphasis the design and fabrication of unmanned river water surface trash collecting machine. In this project we have fabricated the remote operated river cleaning machine. The main aim of the project is to reduce the man power, time consumption for surface trash collection the river. An automated the operation of river cleaning with help of a motor and chain drive arrangement is developed.

Keywords: River water; trash collecting machine; water quality; human health.

AVCE_IJSRST_118: IOT BASED PRIMARY MONITORING SYSTEM FOR COVID-19

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Abstract - The quick wide spread of COVID-19 - Coronavirus Disease 2019 has led us to a pandemic all over the world. The most important aspect to control this infectious outbreak is to ensure the correctness of wearing a facemask, but the advantage of facemasks are getting declined because of improper wearing. Throughout this study, we developed a new facemask-wearing status identification method through convolutional neural network and temperature sensing without any physical contact. The proposed algorithm is implemented in Raspberry pi module with a contactless temperature sensor to monitor a person's temperature and as of facemask-wearing status is concerned, it involves three main steps as: pre-processing the image, detection of face and identification of facemask-wearing status. Our findings highlights the high level of accuracy in identifying the facemask-wearing status which can be accomplished by this proposed CNN, which can act as an important application in this pandemic prevention involving COVID-19. It also uses GSM technology to alert the status of person to avoid spreading of COVID-19.

Keywords: Covid-19, Raspberry Pi, temperature sensor, Convolutional Neural Network, alert.

AVCE_IJSRST_119: SYNTHESIS AND IMPLEMENTATION OF CARRY SELECT ADDER USING BINARY TO EXCESS-1 CONVERTER AND MEMO TABLE

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Abstract - As the digital electronics system is getting better with advancement in technology day by day; there is a need to build faster and more efficient devices. Adders are the fundamental building blocks in digital integrated circuit based designs. It plays a vital role in multiplication and other advanced processors design. The binary addition has a vast usage in digital circuits as it is the basic arithmetic operation and which became indispensible in most of the digital systems such as counting ALU, microprocessors and DSP processorsThe main objective of this thesis is to provide high speed and low area in carry select adder by using reusing computation with binary to excess-1 convertor. Up to now most of the researchers have done various techniques at different levels of the design process which have been implemented to reduce the power dissipation of the circuits. To improve the performance of this multiplier, CSLA is replaced by binary excess 1 counter which not only reduces the area at gate level but also reduces power consumption and RCA computation is replaced with memo table. The proposed architecture of carry select adder with excess-1 convertor and memo table is simulated and synthesized in XilinxISE14.5.

AVCE_IJSRST_120: ANTI THEFT SECURITY SYSTEM FOR TWO WHEELERS

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Abstract - In this research work a new system is introduced for the security of a two-wheeler to safeguard from the theft. This system works by using Arduino UNO, Web page/Android app to access the system. There are lots of security systems available in the markets which are easily detectable and hackable by the thieves, but the proposed system is superior as it works on the remote by GPS (Global Positioning System) and GSM (Global System for Mobile). Through this system, we are providing efficient security for two-wheeler in the unknown area or in the dense parking areas. To find the position of the vehicle, a GPS module is used, which shows that the two-wheeler is moved from its standstill position. By using the key relay, the two-wheeler engine can be switched off in case of the theft and accurate location of the vehicle by the GPS module can be traced. All categories of people can be benefited by this innovative product system, as the cost of the product is affordable to all.

AVCE_IJSRST_121: DESIGN OF ENERGY RECOVERY FLIP FLOP USING SOFT ERROR ROBUST ALGORITHM FOR LOW POWER RESONANT CLOCKING APPLICATIONS

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Abstract **-** The development of a high-performance processor has become a major concern as the semiconductor industry has advanced. One of the most important aspects of almost any optical signal processing program is flip flop. The Soft Error Robust Algorithm is used to model the low-power Energy Recovery Flip Flop in this project. To achieve low power dissipation, the SCCER Flip Flop's basic building block is constructed using the SVL algorithm. The Energy Recovery Flip Flop saves a lot of power while the Flip Flops are idle, and there's no visible overhead compared to the original flip flop. Compared to D-Flip Flop using SVL algorithm, SCCER Flip Flop saves 34.2% of power using SVL algorithm. Thus the simulation results have shown that the proposed Energy Recovery Flip Flop using Soft Error Robust offers low power consumption and can be well suited for Low Power Resonant Clocking applications. Simulation is performed using the Tanner EDA tool in 180nm technology and the results indicate a major improvement in Low power consumption.

Keywords: SCCER Flip Flop**,** CMOS process technology, SVL algorithm, Soft Error Robust

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AVCE_IJSRST_122: TEXT EXTRACTOR AND AUDIO CONVERTOR USING ARTIFICIAL INTELLIGENCE

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Abstract **-** Python based AI conversion which will works on the transformation of complete text file into an audio file, so that it can be listened anywhere and at any particular timing in the converted audio file. The modules which were used in this work are predefined modules in the python, but used for different purposes. The main moto of the conversion system is to support the physical impaired peoples. This may majorly help them to listen all kind of files and learn anything without the help of any other people or with the morse code language which they will primely use to read all kind of books for their understandings. The text file of most of the languages will be converted to a pure audio of that source language itself. After the execution a window will appear for the selection of the target file which is to be transformed and then, the selected file text will be moved for the extraction of text from the file. Initially, every text from the file will be completely extracted with tikka server and then, the texted will only be processed for the further steps. So, that the original text file would not get any damage during the operation of conversion.

Keywords: Tkinter dialog, tikka server, Operating System (OS), LangDetect, Google-Text-to-Speech (GTTS

AVCE_IJSRST_124: WASTE DISPOSAL AND EFFECTIVE UTILIZAION IN FOOTWARE INDUSTRY

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Abstract **-** The footwear industry is a diverse manufacturing sector which employs a wide variety of materials to make product ranging from different types and styles of footwear to more specialized shoes. Disposal is the management of waste to prevent harm to the environment, injury or long term progressive damage to health. Disposal of waste is where the invention is to permanently store the waste for the duration of its biological and chemical activity. Such that it is rendered harmless. The largest quantity of waste is generated at the cutting process. This work to facilitate industrial awareness and to communicate the key issues with the winder community of stakeholder in the footwear sector. It provides an overview of the scale of post-consumer footwear waste, legislative requirements, existing disposing solutions and the key factors influencing the establishment of a nationwide footwear disposing scheme around the world in coming future and create non-polluting environment.

AVCE_IJSRST_139: RESIST SHOULDER SURFING ATTACK FOR CONSUMER SMART DEVICE

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Abstract **-** User authentication is the process that is exercised millions of times around the globe by using different techniques and methods. The most prominent way of authentication is alphanumerical password forms that have been used for decades. Authorized access is becoming a challenging issue because of the introduction of modern technologies. In addition, traditional alphanumerical passwords have significant security issues, for example, humans forget the combination of keys due to the selection of a difficult key combination. Moreover, when they choose an easy key combination, this helps hackers to crack their passwords easily. Traditional passwords are also vulnerable to several types of attacks, for example, dictionary attack, brute force attack, and malware. To provide an easy and more secure authentication technique, a graphical password has been introduced in this paper for consumer electronic devices, which uses an image or a set of images for authentication. Here, categorized the existing graphical password methods into recognition based, cued-recall based, pure-recall based, and hybrid techniques. Due to the limitations of the existing graphical passwords, have introduced a new technique, named Graphical Random Authentication Technique (gRAT), which generates a randomized set of images every time a user tries to authenticate him/herself by maintaining the security and usability at the same time. The gRAT technique is also tested by user-centric evaluation in terms of security, usability, usefulness, and utility, and the experimental results show that the proposed technique is more secure and useful in the real-life authentication applications.

Index Terms: Graphical password, Authentication methods, Information security, Usability, Usefulness**.**

AVCE_IJSRST_126: APPLICATION OF RF TRANSMITTER AND RECEIVER IN THE DEVELOPMENT OF FOOTWEAR FOR WOMEN'S SAFETY

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Abstract **-** The world is becoming more unsafe for women. The recent incident in Maharashtra 8-month pregnant women Gang-raped by 8 men. Rape is the fourth most common crime against women in India. Crime rates in india-2018-sexual violence in India. The highest crime rate was reported in Pondicherry (447.7%), Kerala (312.5%) Kolkata (71.0%) and Madurai (206.2%) West Bengal (79.0%) Tamil Nadu (227.6%).The crimes against women are increasing at a higher rate. The employed women are feeling unsafe due to increasing crimes. In case of emergency situations woman will press an emergency button using wireless technology in RF, which will activates the GPS for location tracking and a SMS is sent to the police and family members of woman along with time. This proposal document describes a quick responding, cost protection system for an individual and especially for women using which a woman in distress can call for help just with the press of a button on this Smart gadget. Self Defense System for women safety is like a Safety Shoes for Women. It has the ability to help women with technologies that are embedded into a compact device. The women wearing this device as a Shoe, in case of any harassment or when she finds that someone is going to harass, she presses a switch that is located on the Shoe when the women has fallen the information about the attack along with the body posture and location information is sent as SMS alert to a few predefined emergency numbers And soon help is on its way! The system will consist of embedded hardware and software co designed for this dedicated application. The system allows for knowing exact location of the individual, as soon as the trigger key on the button is pressed. By providing the instant location of the distressed victim to the police so that the incident could be prevented and the culprit apprehended. Then this system responds to such request by sending back a SMS containing location information in terms of Latitude and Longitude. Weapons also inside the women's shoe, so she can protect herself.

AVCE_IJSRST_127: GLOBAL VOICE CONTROLLED HOME APPLIANCES AND SECURITY

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Abstract **-** This project presents the general design of cost effective Home Automation and Security system with wireless remote access. Designing a product using mobile technology are going to be beneficial to our community. This method is meant to fulfil the wants of elderly and disabled people in home. By using one among the emerging operating systems "android", we synchronize the house appliance status to our smart phone through Bluetooth and internet. The Bluetooth technology provides the access to main electrical device within the front room and internet won't to update and access the house appliances status to central database. Through voice commands, this technique fits to the blind people comfortably. This project provides safety features which has user authentication, door security and fire indication. Only authorized users are allowed to access the appliances reception.

AVCE_IJSRST_128: TRACKING CAR LOCATION USING GPS- AGNOSTIC PLATE NUMBER RECOGNITION

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Abstract **-** Smart phones nowadays are equipped with GPS chips to enable navigation and location-based services. A malicious app with the access to GPS data can easily track the person who carries the smart phone. People may disable the GPS module and turn it on only when necessary to protect their location privacy. However, in this paper, we demonstrate that an attacker is still able to track a person by using the embedded magnetometer sensor in victim's smart phone, even when the GPS module is disabled all the time. Moreover, this attack neither requests user permissions related to locations for installation, nor does its operation rely on wireless signals like network positioning or suffer from signal propagation loss. Only the angles of a car's turning measured by the agnetometer sensor of a driver's smart phone are utilized. The results show that it is possible for attacker to precisely pinpoint the actual path when the driving path includes 11 turns or more. More simulations are performed to demonstrate the attack with lager selected local areas.

AVCE_IJSRST_129: AN EFFICIENT LOCATION BASED KEY MANAGEMENT APPROACH FOR WSN

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Abstract **-** With the advent of 5G, technologies such as Software-Defined Networks (SDNs) and Network Function Virtualization (NFV) have been developed to facilitate simple programmable control of Wireless Sensor Networks (WSNs). However, WSNs are typically deployed in potentially untrusted environments. Therefore, it is imperative to address the security challenges before they can be implemented. In this paper, we propose a software-defined security framework that combines intrusion prevention in conjunction with a collaborative anomaly detection systems. Initially, an IPS-based authentication process is designed to provide a lightweight intrusion prevention scheme in the data plane. Subsequently, a collaborative anomaly detection system is leveraged with the aim of supplying a cost-effective intrusion detection solution near the data plane. Moreover, to correlate the true positive alerts raised by the sensor nodes in the network edge, a Smart Monitoring System (SMS) is exploited in the control plane. The performance of the proposed model is evaluated under different security scenarios as well as compared with other methods, where the model's high security and reduction of false alarms are demonstrated.

AVCE_IJSRST_130: TRAPEZOIDAL PATCH CPW FED ARRAY ANTENNA IN WEARABLE DEVICES FOR MEDICAL APPLICATION

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Abstract - To monitoring the enlargement of lateral ventricle and brain atrophy by using a wearable non invasive antenna .the most common form of neurode generation disease is alzheimer's disease and leading cause of dementia today. The progressive shrinkage of the brain volume and weight is the effect of alzheimer's disease. Currently, MRI and CT scanners can detect and show images of the brain during different stages of alzheimer's disease. However, its limited accessibility, high costs, and static structure make it inconvenient for some to use. This paper presents a wearable device comprising of flexible microwave antennas, with an operating frequency range of 300 MHz to 3 GHz that detects the progression of brain atrophy and lateral ventricle enlargement in patients with alzheimer's at the earliest stage possible. In this work, the software used to analyze and design the proposed antenna is CST studio suite. The operating principle of the antennas are simulated in near field using CST and the device is experimentally validated using lamb brain samples and samples representing cerebral spinal fluid (CST). The measured reflection coefficient (s11) were found to correlate with changes in brain volume and changes in volume successfully, thus giving an indication of the progression of alzheimer's disease in a patient.

Keywords: Electromagnetic, Vector Network Analyzer (VNA), Flame Retardant (FR-4), Wearable RF Device, Microwave RF Coaxial Switch, Vivaldi antenna, Cerebral Spinal Fluid (CSF).

AVCE_IJSRST_131: FINGERPRINT ENABLED VOTING SYSTEM USING ANN CLASSIFIER

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Abstract - In our proposed work we have introduced some new concepts and that is implementing by Biometric Identifier. Secured voting. It reduces man power efficiently. Throughout the project, we have been able to develop a Electronic Voting Software which manages and maintains the voter's information and biometric data of the voters. The weiner filter is used for preprocessing the input image. The Discrete Cosine transform and Discrete Orthogonal Stock well transform is used for image segmentation. The Grey Level Co-Occurance Matrix is used for feature extraction and finally Artificial Neural Network is used for validating the finger print based Voters. This project is implemented using python.

AVCE_IJSRST_132: LICENSE PLATE RECOGNITION BASED ON PROBABILISTIC NEURAL NETWORK

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Abstract - This project presents a novel image processing system for Indian number plate detection and recognition that can deal with, noisy, low illuminated, cross angled, non-standard font number plates. This work employs several image processing techniques such as, morphological transformation, Gabor smoothing, and Gabor thresholding in the pre-processing stage. Next, for number plate segmentation, contours are applied by border following and contours are filtered based on character dimensions and spatial localization. Finally, after the region of interest filtering and Probabilistic neural Network algorithm is used for character recognition. The proposed methods demonstrated promising results using Matlab software.

Keywords: Probabilistic Neural Network classifier, Gabor filter, Fuzzy C

AVCE_IJSRST_133: SMART SECURITY DEVICE FOR WOMEN

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Abstract **-** Nowadays, safety of women's and children's are the prime issue in our society. The fact that women in India have made a considerable progress in almost seven decades of Independence, but they still have to struggle against many social evils in the male-dominated society. Any evil and masculine forces still prevail in the modern Indian society that resists the forward march of women's. Most of the crimes happen because of the lack of information. Even if we have a security system, it is providing same lack at that time. Here, comes the need for a device which automatically senses and rescues the victim from the danger, which is the venture of the idea of our project. This work was focused on developing a smart low-cost device to help women, feel them safer and prevent the occurrence of harassment and other dangerous situations. On providing a Smart device based on raspberry pi that not only helps to woman escape the critical situations but also ensures to provide justice to the women by capturing the image of the culprits. This device is extremely portable and can be activated by the victim on being assaulted just by clicking a button that will fetch her current location and also capture the image of the attacker via Raspberry Pi camera. The location and the image captured will sent to predefined emergency contact numbers or police via smart phone thus preventing the use of additional hardware devices /modules and making the device compact. This concept was devised in every wake of serious crimes against women in India and to help prevent those crimes.

Keywords **-** Security Device, Raspberry Pi, GPS and GSM

AVCE_IJSRST_134: DESIGN & DEVELOPMENT OF FIRE-RESISTANT MAV

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Abstract **-** Nowadays, the number of high-rise buildings and large complex structures are rapidly increasing due to the development of new construction technologies and other economic reasons. Since these urban spaces are densely populated, fire accident could be critical and accessing the situation at early stage is very important in order to suppress the fire and evacuate the residents. An indigenously developed micro air vehicle is used to provide a solution for this problem. The MAV is designed using CATIA software. The frame of the MAV is built using Alumino silicate composite material which is fire resistant

. The electronic components used on the micro aerial vehicle is coated with Rust-Oleum heat spray paint to withstand high temperatures upto 800 degree Celsius. which has advantages because of its ability to access to the place that is hard to reach. In this project, we are developing a fire-retardant micro air vehicle platform that can endure the intermittent flame. The MAV can pass through the narrow space through the flames. This project proposes a new fire-resistance mechanism for micro aerial vehicles using carbon reinforced aluminosilicate composite and infrared thermal sensors.

AVCE_IJSRST_135: SELF-REDACTABLE BLOCKCHAIN TO ATTAIN INTELLIGENT TRUST-LAYER FOR IOT

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Abstract **-** The advance of Artificial Intelligence (AI) propels big data processing and transmission for Internet of Things (IoT), by capturing and structuring big data produced by heterogeneous devices. While applying blockchain to manage IoT devices and associated big data, the blockchain itself suffers from abuse of decentralization from anonymous users. Specifically, it has been utilized to facilitate black market trades and illegal activities. The Chameleon Hash (CH) to derive Redactable Blockchain (RB), which works by embedding a trapdoor in the basic hash function so that block content can be rewritten without causing major hard forks. In short, the redacted block hash remains unchanged. However, there is lacking intelligent design where any mistakes observed in the chain can be corrected universally and automatically. This creates disincentives to use Redactable Blockchain for managing big data or any data-driven business mainly due to ineffective chain redaction. To solve this problem, in this project, propose the notion of the Self-Redactable Blockchain (SRB) to support intelligent execution of chain redaction. Specifically, propose the first Revocable Chameleon Hash (RCH) to power RB. It enables an ephemeral trapdoor for finding collision without any co-operation. Periodical expiration is applied to committed hash and an ephemeral trapdoor to prevent any abuses of redaction power. Here, instantiate how to use proposed RCH to build SRB as an intelligent trust-layer for IoT. Here also give a rigorous analysis as well as comprehensive experiments to validate the proposals. The evidence showed that our proposal is secure and acceptably efficient for IoT devices.

Index Terms**—**IoT; Intelligence; Blockchain; Automatic Redaction

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AVCE_IJSRST_136: ENHANCED DATA INTEGRITY AUDITING AND SHARING SCHEME FOR SECURE CLOUD STORAGE

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Abstract **-** With cloud storage services, users will remotely store their data to the cloud and notice the info sharing with others. Remote information integrity auditing is planned to ensure the integrity of the info hold on within the cloud. In some common cloud storage systems adore the Electronic Health Records (EHRs) system, the cloud file may contain some sensitive information. The sensitive data mustn't be exposed to others once the cloud file is shared. Encrypting the total shared file will realize the sensitive data hiding, however can create this shared file unable to be utilized by others. the way to notice information sharing with sensitive data concealing in remote information integrity auditing still has not been explored up to now. so as to deal with this problem, we tend to propose a distant information integrity auditing theme that realizes information sharing with sensitive data concealing in this paper. during this scheme, a sanitizer is employed to sanitize the data blocks comparable to the sensitive data of the file and transforms these information blocks' signatures into valid ones for the sanitised file. These signatures are accustomed verify the integrity of the sanitised get in the part of integrity auditing. As a result, our theme makes the file hold on within the cloud able to be shared and utilized by others on the condition that the sensitive information is hidden, whereas the remote information integrity auditing is still able to be expeditiously executed. Meanwhile, the planned scheme is predicated on identity-based cryptography, that simplifies the sophisticated certificate management. the safety analysis and the performance analysis show that the planned theme is secure and economical

Index Terms: Cloud computing; Data integrity auditing; Data sharing; Sensitive information hiding.

AVCE_IJSRST_137: SOLAR PANEL COOLING SYSTEM

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Abstract **-** This project highlights two different cooling techniques to diminish the operating temperature of the PV cells. This review project focuses on the enhancement of the performance of the small domestic use PV systems by maintaining the temperature of the cells as low as possible. Distinctive cooling practices have been look over experimentally and numerically the bearing of the operating temperature of the cells on the electrical and thermal performance of the PV systems. It was notorious that the water spray cooling system has a proper crash on the PV panel performance. So the water cooling is one way to augment the electrical efficiency of the PV panel. The performance was evaluated under three different cases: without panel cooling,with water cooling on beneath the surface of the panel with copper tube, with water cooling beneath the surface of the panel with jute. The outcome of different cooling cases on the various performance parameters such as voltage, current, power output, pump efficiency and system efficiency has been analyzed and discussed. The results showed that the water cooling on the bottom of the panel and beneath the surface of the panel with jute has considerable influence on performance enhancement when compared to other cases.

AVCE_IJSRST_138: SURVIVABLE VIRTUAL NETWORK MAPPING WITH CONTENT CONNECTIVITY AGAINST MULTIPLE LINK FAILURES IN OPTICAL METRO NETWORK

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Abstract - Network connectivity, i.e., the reachability of any network node from all other nodes, is often considered as the default network survivability metric against failures. However, in the case of a large-scale disaster disconnecting multiple network components, network connectivity may not be achievable. On the other hand, with the shifting service paradigm towards the cloud in today's networks, most services can still be provided as long as at least a content replica is available in all disconnected network partitions. The concept of content connectivity has been introduced as new network survivability metric under a large-scale disaster. Content connectivity is defined as the reachability of content from every node in a network under a specific failure scenario. In this work, we investigate how to ensure content connectivity in optical metro networks. We derive necessary and sufficient conditions and develop what we believe to be a novel mathematical formulation to map a virtual network over a physical network such that content connectivity for the virtual network is ensured against multiple link failures in the physical network. In our numerical results, obtained under various network settings, we compare the performance of mapping with content connectivity and network connectivity and show that mapping with content connectivity can guarantee higher survivability, lower network bandwidth utilization, and significant improvement of service availability

Keywords: Content connectivity, optical metro networks, data centres, survivable mapping, n−link failures.

AVCE_IJSRST_125: SAFETY ASPECTS IN FOOTWEAR INDUSTRIES

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Abstract - The footwear industry is a diverse manufacturing sector which employs a wide variety of materials to make product ranging from different types and styles of footwear to more specialized shoes. Footwear industry plays an important role in the safety measures of the employees in order to prevent them from accident, disability and death. So, the employees are insisted to take part in safety programme and beware of their individual life. In the event of taking part in the safety awareness programme the employees will become more conscious on their personnel. Safety meetings are about awareness to hazards and alertness to damage. This work to facilitate industrial awareness and to communicate the key issues with the winder community of stakeholder in the footwear sector.

AVCE_IJSRST_140: A SECURE REMOTE BIOMETRIC BASED FINGER PRINT FOR DISTRIBUTED MOBILE CLOUD COMPUTING ENVIRONMENT

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Abstract **-** Identity based Mutual Authentication and Key Agreement (ID-MAKA) between a versatile client and cloud benefit supplier is vital for getting to any cloud administrations. In later a long time, there are a huge number of ID-MAKA plans had been proposed on versatile cloud computing administrations to form confirmation and getting to prepare more ease of use, security, and adaptability. To a modern ID-MAKA plot for versatile cloud computing, which firstly accomplishes farther biometric based verification (inaccessible servers confirm user's biometrics), single sign-on (a single credential and single enrollment for getting to numerous servers) and center-less verification (the registration center does not take part within the get to method) in one plot. In arrange to realize this target, to plan a ZK token based on ECC and cryptographic hash work, and after that shrewdly utilize it to present the fuzzy extractor innovation and zero-knowledge innovation into our plot. Hence, the client can get to different cloud computing servers by enrolling as it were once within the enrollment center, and cloud computing servers can total the biometric-based inaccessible verification and key assention for the client without the enrollment center taking part. In this way, the conspire significantly makes strides ease of use, adaptability, and security compared to other existing arrangements. To provide a formal security verification for our plot by utilizing Real-Or-Random (RoR) demonstrate and Burrows Abadi Needham (Boycott) rationale to appear that the display conspire is secure and security investigation for other known assaults. At long last, agreeing to the explore result, the plot has lower computation and communication fetched compared with most existing related plans.

AVCE_IJSRST_141: COVID BASED TEMPERATURE SCANNING AND AUTOMATIC DOOR OPEN-CLOSE SYSTEM

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Abstract **-** **T**he aim of this project is preventing from disease spreading from one person to another person, in this project temperature sensor used to prevent and entering into office alarm and protection system. In this paper, we introduce an affordable door open close based solution aiming to increase COVID-19 indoor safety, covering several relevant aspects. contactless temperature sensing. Contactless temperature sensing subsystem relies on Arduino Uno using infrared sensor or thermal scanner done by automatic door open and close system.

Keywords**:** COVID19 , Arduino uno,Temperature.

AVCE_IJSRST_142: EXTRACTION OF ROI ON CT IMAGES USING EDGE DETECTION BASED ON SHANNON ENTROPHY

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Abstract - Edge detection based on the derivative of the pixels of the original image are Gradient operators, Laplacian and Laplacian of Gaussian operators. The Laplacian edge detection method has used a 2-D linear filter to approximate second-order derivative of pixel values of the image. In this research study, a novel approach utilizing Shannon entropy other than the evaluation of derivates of the image in detecting edges in gray level images has been proposed. The proposed approach solves this problem at some extent. In the proposed method, we have used a suitable threshold value to segment the image and achieve the binary image. After this the proposed edge detector is introduced to detect and locate the edges in the image. A standard test image is used to compare the results of the proposed edge detector with the Laplacian of Gaussian edge detector operator. In order to validate the results, seven different kinds of test images are considered to examine the versatility of the proposed edge detector. It has been observed that the proposed edge detector works effectively for different gray scale digital images
Key words: Edge detection, shannon entropy, gradient, laplacian, threshold value

AVCE_IJSRST_143: DUAL BAND GROUNDED COPLANAR WAVEGUIDE FED ANTENNA FOR WLAN ON BODY APPLICATION

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Abstract - A very-low-profile grounded coplanar waveguide (GCPW)-fed slot antenna with an antenna thickness of 0.8 mm(about 0.0064λ at 2.4 GHz) and a compact size of 15 mm x 40 mm(about 0.12 λ x 0.32 λ at 2400 MHz) for 2.4/5.8 GHz dual-band wireless local area network (WLAN) on-body antenna application is presented. The GCPW slot antenna consists of a top ground with the GCPW feed line and radiating slot embedded thereon and a bottom ground spaced 0.8 mm to the top ground. The radiating slot is an asymmetric T-shape slot having a longer slot path for 2400~2500 MHz band and a shorter slot path for 5725~5875 MHz band. It is convenient to tune the dual-band operation by adjusting the lengths of the longer and shorter slot paths, respectively. Additionally, owing to the presence of the bottom ground, the GCPW slot antenna has decreased backward radiation.
This causes antenna's impedance matching very slightly varied when it is in the proximity of human body. The very-low-profile GCPW slot antenna is presented.

Keywords - RF antenna, co-plannar waveguide, WLAN antennas, on-body antennas.

AVCE_IJSRST_144: SMART ELECTRICITY METER DATA INTELIGENCE FOR FUTURE ENERGY SYSTEM

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Abstract - In this paper, a smart electricity meter is developed to avoid the power theft in power system. There is a criminal act for electricity theft. This leads to lose in millions of rupees for a nation. To avoid those theft, a smart electricity meter is designed with Internet of Things (IoT). The aim of this is to design implementation model of electrical energy theft detection without human interaction. The device comprises of sensing device, Arduino, GSM module, power circuit, and LCD display. The device monitors the unit and send the used data to the user mobile and also display the data in the LCD display. Based on the reference current, the controller detects the current and if it is higher than the limit the theft message is send to the nearby Electricity Board. The shutdown switch is also provided with the device if there is a shutdown the message will send to the corresponding house before a day. The purpose of this framework is to reduce the energy theft cases and accidents occurs due to the electricity.

Keywords: Electricity meter, Internet of Things, GPS module.

AVCE_IJSRST_148: MAINTAINING CONFIDENTIALITY WITH SEARCHABLE ENCRYPTION PROCESS USING METADATA KEYS

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Abstract - Searchable Encryption process encourages the server present in the cloud to search encoded information without decoding it. Cloud computing encourages the process of storing, accessing and retrieving the data's and programs over the internet without any computer hardware. In this paper, we discussed about how to maintain confidentiality of the data's and information which are present in the cloud. Cloud encourages encryption process in a unique manner in which the exchange of data's are done using a single encryption key. We use an algorithm called PSE algorithm(Privacy Preserving Scheme with SHA-12) which is a symmetric block cipher algorithm that takes plain text in 128 bits and converts them to cipher text using keys 128,192 and 256 bits respectively. PSE uses a technique called SHA-12 which are being designed to keep data in a secured format and it does it's function in bitwise operation. Here it is mainly used to generate meta data keys for the files and documents which contains sensitive information's. Simulation Results Shows the Search Operation of Keywords and Trapdoor performance.

Keywords: Searchable Encryption ,Cloud Security, Privacy Preserving Scheme, Secure Hash Algorithm, Attribute Based Encryption; Anonymity.

AVCE_IJSRST_147: ELECTRICITY GENERATION BY SPEED BREAKER S

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Abstract **-** Energy is the primary need for survival of all organisms in the universe. Everythingwhat happens in the surrounding is the expression of flow of energy in one of the forms. But in this fast moving world, population is increasing day by day and the conventional energy sources are lessening. The extensive usage of energy has resulted in an energy crisis over the few years. Therefore to overcome this problem we need to implement the techniques of optimal utilization of conventional sources for conservation of energy. This project includes how to utilize the energy which is wasted when the vehicles passes over a speed breaker. Lots of energy is generated when vehicle passes over it. We can tap the energy generated and produce power by using the speed breaker as power generating unit. The kinetic energy of the moving vehicles can be converted into mechanical energy of the shaft through rack and pinion mechanism. Then, this mechanical energy will be converted to electrical energy using generator which will be saved with the use of a battery. The energy we save during the day light can be used in the night time for lighting street lights. Therefore, by using this arrangement we can save lot of energy which can be used for the fulfillment of future demands. Large amounts amount of electricity can be generated saving lot of money. And if implemented will be very beneficial for Government.When vehicle is in motion it produces various forms of energy like, due to friction between vehicle‟s wheel and road i.e. rough surface HEAT Energy is produced, also when vehicle traveling at high speed strikes the wind. The principle involved is potential energy to electrical energy conversion. There is a system to generate power by converting the potential energy generated by a vehicle going up on a speed breaker into kinetic energy. When the vehicle moves over the inclined plates, it gains height resulting in increase in potential energy, which is wasted in a conventional rumble strip. When the breaker comes down, they crank a lever fitted to a ratchet-wheel type mechanism (a angular motion converter) which in turn rotates a geared shaft loaded with recoil springs. The output of this shaft is coupled to a dynamo to convert kinetic energy into electricity.

AVCE_IJSRST_109: PERFORMANCE IMPROVEMENT OF REFRIGERATION SYSTEM USING PHASE CHANGE MATERIALS

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Abstract **-** The usage of Phase Change Materials (PCM) in refrigeration system improves the system performance. In addition to that recovery of waste heat is obtained in this system. PCM is used in the outside of the condenser as a heat absorbing agent in a vapour compression refrigeration system. Heat which is liberated to the atmosphere by the condenser tubes are absorbed by the PCM used. By using this method of removing heat the condenser outlet temperature is reduced to further extent when comparing to the air cooled condensers. For the reduction of every 2˚C the overall performance of the system is increased by 5.46%.

Key words: Phase change materials, refrigeration, fusion, organic.

AVCE_IJSRST_149: STUDIES ON CORROSION INHIBITION EFFECT OF o-VANILLIN – TRYPTOPHAN SCHIFF BASE ON LOW CARBON STEEL IN ACID MEDIUM USING DENSITY FUNCTIONAL THEORY

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Abstract - The inhibition effect of o-Vanillin – Tryptophan Schiff base (2- Hydroxy-3-methoxybenzylideneamino)-3-(1H-indol-3-yl) propanoic acid has been studied for low carbon steel corrosion inhibition in acid medium. The inhibition efficiency of Schiff base inhibitor was investigated using weight loss method and Density Function Theory (DFT/B3LYP-6-31G (d)) methods. The DFT studies reveals the corrosion control mechanism by the use of quantum chemical parameters such as E_{HOMO}, E_{LUMO}, Energy gap(ΔE), dipole moment (μ), electronegativity (χ), electrophilicity index (ω), electron affinity (A), global hardness (η), global softness (σ), ionization potential (I) and the fraction of electrons transferred (ΔN) and the fraction of electron transferred (ΔN). The results explain that the Schiff base (2-Hydroxy-3-methoxybenzylideneamino)-3-(1H-indol-3-yl) propanoic acid is a new inhibitor for corrosion inhibition of low carbon steel in acid medium.

Key words: Low carbon steel, Schiff base, corrosion inhibitors, Weight loss,DFT

AVCE_IJSRST_145: DEVELOPMENT OF 15 LEVEL CASCADED H-H-T MULTILEVEL INVERTER

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Abstract - In recent years, multilevel inverters have emerged as a very important alternative in the area of high power medium voltage energy control. Multilevel inverters (MLI) have been receiving increased attention for their caoability of high voltage operation, low electromagnetic interference (EMI) and higher efficiency. The inverter plays a vital role in any renewable based power generation system, as the power extracted from the renewable source is dc. MLI uses power semiconductor devices and dc sources to synthesis staircase output voltage waveform. By increasing number of levels improving its spectral quality. /numerous topologies and modulation strategies have been introduced and studied extensively in recent literature for utility and drive applications. Although there are a large number of MLI topologies in the literature, in this work, the most common cascaded topology with H-H-T structure is implemented and tested.

Keywords: MLI, H-H-T, Matlab.

AVCE_IJSRST_150: ASSESSMENT OF PHYSICAL CHEMICAL PARAMETERS IN THE FISHING HARBOURS OF SOUTHEAST COAST OF INDIA

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Abstract **-** The study concerns the physico-chemical parameters (Total dissolved solids ,pH ,Total Alkalinity, Total hardness, Calcium, Magnesium, Sodium ,Potassium, Iron, Manganese, Free Ammonia, Nitrite, Nitrate, Chlorides, Fluoride, Sulphate, Phosphate, Dissolved Oxygen) of Muttom ,Chinnamuttom, and Colachel harbour water from October 2019 to February 2020.Water exhibit an important role to carve the land and administer the climate. The people are at risk due to undesired changes in the physical, chemical characteristics of water. Because of increased human population, industrialization, usage of fertilizers and modern agriculture activity seawater is highly polluted with different toxic contaminants. The increased harbour activities like enormous boats with engines running on the dirtiest fuel available, usage of diesel fuels in beaked boats and other polluting equipment, and other activities in harbours cause an array of environmental crisis that can seriously affect local communities and the environment. This will lead to an increased risk of illness, such as respiratory disease or cancer, degradation of water quality. Necessary actions should be provided to safeguard seafood for human consumption and protect means of livelihood. By re-educating the citizen, minimizing motor fuel leakage from boats, reducing the hazardous discharges will protect the marine environment. Physicochemical characteristics of seawater play a crucial role for productive marine ecosystem and fisheries activities. A total of 15 water samples were collected during October 2019 to February 2020 and during the analyses a variation in certain parameters was found which can cause harmful effects for the aquatic life. In future, it is advisable to have an update in physicochemical parameters of harbour waters these areas.

Keywords: physico chemical, marine ecosystem, pollution, water quality

AVCE_IJSRST_151: SECURITY FOR EHR BASED ON ECC WITH RECONSTRUCTION METHOD

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Abstract **-** Electronic Health Record plays vital role in hospitals and healthcare organizations. security is one of the main issues in EHR . Electronic Health Record allows only the licensed people can access the records. EHR ensure high-quality care. EHR contain treatment histories of patients. Using basic algorithms like symmetric algorithms, public key cryptography, RSA algorithm the Electronic health care can be secured, but there may be a few drawbacks to obtain integrity and confidentiality .The proposed ECC (Elliptical Curve Cryptography) will provide high security in EHR and obtain confidentiality and integrity. The doctors diagnoses, treatment plans, radiology images, and laboratory a test results. Treatments and guidance from doctors to patients mostly through e-mails, also many parties store and run computation while keeping the sensitive health data private.so cipher attack may cause heavy damage from the patients side therefore data may be secure. In order to address this issue this paper presents a patient healthcare data management system using reconstruction outsourcing mechanism to attain privacy in HC. ***Keywords:*** Electronic Health Record, Symmetric key, ECC, HealthCare**.**

AVCE_IJSRST_152: ANTI-POACHING ALARM SYSTEM FOR TREES IN FOREST USING WIRELESS SENSOR NETWORK

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Abstract **-** Nowadays sheerer numerous occurrences about pirating of trees like Sandal, Sagwan and sofort. These trees are expensive and pitiful. They are utilized in the medicinal sciences, beautifying agents. To limit their sneaking and to sparewoodlands around the world some preventive estimates should be conveyed. We have built up a framework which can be utilized tolimit sneaking. The structure framework utilizes three sensors tiltsensor (to recognize the tendency of tree when its being cut),temperature sensor (to identify timberland fires), sound sensor(for successful discovery of unlawful logging for example indeed,eventhesoundscreatedwhilechoppingoutthetreeareadditionally detected). Information created from these sensors isconstantly observed with the page. As for the sensors, their yieldgadgets are initiated through hand-off switch. For tilt sensor andsound sensor, a ringer is enacted and for temperature sensor a water siphon is actuated. Created in formation is puta way in cloud Server over the Wi-Fi module. Wood sauthoritiesare advised when any occasion happens so proper movecan bemade.

Keywords:Pitiful–exceptionallylittleinsum,carrying–takingathinkillicitly fromanation

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AVCE_IJSRST_153: IOT BASED SMART PARKING SYSTEM

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Abstract – In recent times, the concept of smart cities has gained popularity. It is because of the growth and usage of Internet Of Things effectively which leads to the evolution of smart cities. Despite the technology which has been used in parking system, many vehicles pursue only a small number of parking spaces, which in turn leads to serious traffic congestion. Metropolitan cities noticed that their drivers had real problems to find a parking space easily especially during peak hours, the difficulty roots from not knowing where the parking spaces are available at the given time. The Smart Parking system consists of an IoT module that is used to monitor and signalize the state of availability of each single parking space. A mobile application is also provided for the end user to check the availability of parking space and book a parking slot accordingly.

Keywords: Internet of things, Smart parking system, booking slots

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AVCE_IJSRST_154: SMART VENTILATOR USING ARDUINO WITH BLOOD OXYGEN SENSING

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Abstract - Human lungs use the reverse pressure generated by contraction motion of the diaphragm to suck in air for breathing. A contradictory motion is used by a ventilator to inflate the lungs by pumping type motion. A ventilator mechanism must be able to deliver in the range of 10 – 30 breaths per minute, with the ability to adjust rising increments in sets of 2. Along with this the ventilator must have the ability to adjust the air volume pushed into lungs in each breath. The last but not the least is the setting to adjust the time duration for inhalation to exhalation ratio. Apart from this the ventilator must be able to monitor the patient's blood oxygen level and exhaled lung pressure to avoid over/under air pressure simultaneously. The ventilator we here with design and develop using Arduino encompasses all these requirements to develop a reliable yet affordable ventilator to help in times of pandemic.

Keywords: contradictory motion, diaphragm, exhalation, inhalation, ventilator,

AVCE_IJSRST_155: EFFICIENT EXPLAINABLE DEEP LEARNING TECHNIQUE FOR COVID-19 DIAGNOSIS BASED ON COMPUTED TOMOGRAPHY SCAN IMAGES OF LUNGS M. Madhavi, Dr.P. Supraja

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Abstract - The entire human race is currently facing a huge disruption of everyday life due to the rapid spread of the novel Corona Virus disease 2019 (COVID-19). It is essential to develop a tool or model for fast diagnosis of the disease which is pandemic and also the model should be able to justify the result for trustworthy in the field of medicine. Machine learning (ML) and Deep Learning (DL) models play a vital role in identifying COVID-19 patients by visually analyzing their Computed Tomography (CT) scan images. In this paper, few publicly available convolutional neural network models (CNN) were analyzed to classify the CT scan images of lungs into two classes, COVID-19 positive and negative cases. In addition to that, Local Interpretable Model-agnostic Explanation (LIME) framework is used as an explanation technique for interpretability. The pixel of relevancy responsible for the outcome of classification is visually explained through LIME technique which gives trustworthiness in the field of healthcare.

Key words: Deep Learning, COVID-19, Local Interpretable Model-agnostic Explanation, Convolutional Neural Network.

AVCE_IJSRST_156: BLOCK CHAIN TECHNOLOGY BASED MEDICAL HEALTHCARE SYSTEM WITH PRIVACY ISSUES USING BLOWFISH ALGORITHM

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***Abstract* -** In the recent years the Block chain is fastest growing technology through various applications in a secure manner. The health care services industry is always showing signs of change and supporting new advancements and advances. In today's health care systems is to protect the patient's medical report against potential attackers. Hence, it is basic to have secure information that can just approve people can get to the patient's medical report. So in our proposed system have proposed Block chain technology as a disbursed approach to grant security in accessing the medical report of a patient. It's composed of three phases 1. Authentication, 2. Encryption and 3. Data Retrieval using Block Chain technology. For authentication – Quantum Cryptography, for Encryption – BLOWFISH and for Data Retrieval – SHA algorithms are used to resist the frequent attacks. Finally our result shows the proposed method ensures the protection of the patients and moreover keeps up the security and trustworthiness of the health care system.

Index Terms: AES, DES, Blowfish, Block Chain, Key generation.

AVCE_IJSRST_157: AN EXPERIMENTAL STUDY ON SOIL WASHING TECHINIQUE FOR REMEDIATION OF SOIL CONTAMINATED WITH PESTCIDE

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Abstract - Disposal of chemical waste from pesticide results in contamination of soil, ground water and surface water. The release or potential release of contaminant from such sites may endanger human health, welfare & the environment. Human health could be at a risk due to inhalation of air borne contaminants, direct contact with soil /sediment and ingestion of contaminated groundwater. It is, therefore, necessary to remediate contaminated soil by adopting suitable measures. The objective of study is to determine the efficiency of soil washing technology in the removal of pesticide waste adsorbed on soils. In this paper we are giving our experimental work on remediation of soil which comprises of soil washing technique.

AVCE_IJSRST_158: ENHANCING SECURITY OF DATA EXCHANGE THROUGH BLOCK CHAIN TECHNOLOGY

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Abstract - Electronic medical records (EMRs) square measure vital, sensitive personal data in aid, and wish to be often shared between peers. Blockchain Technology facilitates a shared, immutable and history of all the transactions creating software of trust,responsibility and transparency. This provides a novel chance to implement a secure and reliable EMR knowledge management and sharing, system victimization. In this paper, we gift our views on block chain primarily based aid knowledge management, specially, for EMR knowledge sharing between aid suppliers and for analysis studies. All World Health Organization work with health data— health information processing and management professionals, doctors, researchers, business directors have responsibility to accept that data. Confidentiality of patient medical records is of utmost importance. Access to patient medical records in hospital software package ought to be with the treating/admitting practician and therefore the team. Victimization digital signatures on Blockchain-based knowledge permits access for multiple folks may regulate the provision and maintain the security of health records.

Keywords: Searchable Encryption ,Cloud Security, Privacy Preserving Scheme, Secure Hash Algorithm, Attribute Based Encryption; Anonymity.

AVCE_IJSRST_159: BRAIN TUMOR CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORKS

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Abstract - Recently deep learning has been playing a major role in the field of computer vision. One of its applications is the reduction of human judgment in the diagnosis of disease. Especially, brain tumour diagnosis requires high accuracy, where minute errors in judgment may lead to misfortune. This project focuses on a solution to identify brain tumour using convolutional neural network. The classification mainly depends on segmentation and region estimation. The segmentation process mainly includes feature extraction by the use of convolutional layer and pooling layer. The pooling layer performs max pooling and average pooling. Segmentation includes training and testing. In segmentation, the intensities get standardized and then the non tumor regions are masked. CNN classifier is used for the classification of type of tumor in the brain. Region growing is used to locate the exact region where the tumor is present. The proposed method is easy to perform when compared to the manual segmentation.

Keywords: Brain extraction, MRI brain, Brain structure segmentation, CNN.

AVCE_IJSRST_160: A NOVEL VIDEO COMPRESSION ARTIFACT REDUCTION SCHEME BASED ON OPTICAL FLOW CONSISTENCY

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Abstract - In today's electronic world, day-to-day activities are captured as a video and store it into a drive as their memory. The media processing 26 industries are growing suddenly and attain the peak level due to this drastic improvement of video needs. In this sense, video compression is the major part to deal with, because the size of video is usually large. The requirement to store the video into the drive requires huge space and memory. So, that a new technique is introduced in this paper, to compress the video. Video compression algorithms are widely used to reduce the huge size of video data, but they also introduce unpleasant visual artifacts due to the lossy compression. To obtain a high quality images/videos at the decoder side, a lot of compression artifact reduction algorithms have been proposed to generate artifact-free images in the past decades. Previously, manually designed filters and sparse coding based methods are proposed to solve this problem. In this project, Lucas Kanade based Optical flow detection for compression artifact reduction is proposed. The strategy first partitions every video outline into suspicious and evidently honest parts. So an optical stream coefficient is registered from each part. Phonies are found when an unordinary incline in the optical stream coefficient of the suspicious article is identified. An extensive experimental result on the Vimeo-90k and HEVC benchmark datasets demonstrate the effectiveness of the proposed method.

Index Terms: Lucas Kanade based Optical flow, video compression, Compression artifact reduction, Optical flow model, recursive filtering, video restoration.

AVCE_IJSRST_161: DESIGN AND ANALYSIS OF MULTIBAND MICROSTRIP ANTENNA WITH TWO PARISTIC PATCHES

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Abstract - The accessibility and enlargement in development of economical, less weight, highly reliable antennas are required for wireless communication, it poses new challenges for the design of antenna in wireless communication. The microstrip patch antenna used for these communication, because they will provide high frequency and less bandwidth. A corner cut microstrip patch antenna having T-slot with small microstrip line feed is presented here. Different design parameters with their effects are studied using v11 An soft HFSS for the different operating frequencies and obtained maximum return loss bandwidth. The results demonstrates the proposed antenna with T-slot and corner cuts at special position can generate steady radiation patterns and is capable of wrapping the frequencies demanded by Wireless Applications.

Keywords: High Frequency Structure Simulator (HFSS),Microstrip Patch Antenna,T-Slot.

AVCE_IJSRST_162: REAL TIME INTELLIGENT TRAFFIC SIGNAL SYSTEM USING DEEP REINFOCEMENT LEARNING TECHNIQUE

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Abstract - Traffic is the world's daily common problem happening all around the world. To normalize the traffic, traffic signals were made. Though it prevents heavy traffic, it is not sufficient. Mainly in India, traffic is one of the major causes for many pollution such as air and noise pollution and even causes accidents. This problem cannot solved with perfection in real time, but optimized with maximum efficiency with automation. With the help of Deep Reinforcement learning, this problem is optimized with maximum efficiency by assigning traffic signals in such a way that the waiting time for each vehicle is minimized on all side of the road.

AVCE_IJSRST_163: AN EFFICIENT SEMANTIC AWARE SEARCH METHOD OVER ENCRYPTED CLOUD DATA

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Abstract- With the increasing adoption of cloud computing, a growing number of users outsource their to cloud. To preserve the privacy, the are usually encrypted before outsourcing. However, the common practice of encryption makes the effective utilization of the data difficult. For example, it is difficult to search the given keywords in encrypted . Many schemes are proposed to make encrypted data searchable based on keywords. However, keyword-based search schemes ignore the semantic representation information of users retrieval, and cannot completely meet with users search intention. Therefore, how to design a content-based search scheme and make semantic search more effective and context-aware is a difficult challenge. In this paper, we propose ECSED, a novel semantic search scheme based on the concept hierarchy and the semantic relationship between concepts in the encrypted . ECSED uses two cloud servers. One is used to store the outsourced and return the ranked results to data users. The other one is used to compute the similarity scores between the documents and the query and send the scores to the first server. To further improve the search efficiency, we utilize a tree-based index structure to organize all the document index vectors. We employ the ranked search over encrypted cloud data as our basic frame to propose two secure schemes. The experiment results based on the real world show that the scheme is more efficient than previous schemes. We also prove that our schemes are secure under the known model and the known background model.

Index Terms: Public cloud, Results Vertifiable searching, secure semantic searching ,wordtransporation

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AVCE_IJSRST_164: LIGHTWEIGHT SOLUTIONS FOR SECURING IOT BASED HEALTHCARE SYSTEM

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Abstract - Internet of Things (IoT) is an emerging field that plays a vital role in medical application. The Wireless Body Sensor Network (WBSN) technology is integrated with IoT for an efficient healthcare monitoring. In this system, wearable wireless body sensors are used on patient's body to monitor their heath condition and report to concerned care takers in case of any emergency situation, when a patient's life is under risk. IoT introduces new challenges for the security of the system and the proposed protocol aims at enhancing security in IoT based automated modern healthcare system. As security is one of the major mandatory requirements of healthcare application, a strict authentication scheme must be developed to ensure patient's privacy by preventing critical information from eavesdropping. To overcome the security threats in the existing healthcare system, a novel approach is introduced to provide lightweight solutions. The proposed lightweight anonymous authentication protocol is useful in many IoT applications where security is a major concern. The security analysis shows that this system satisfies all the essential security requirements and withstands all the possible attacks to give advanced healthcare support. The communication and computation overhead is reduced by employing the proposed lightweight authentication protocol. The comparative results demonstrate that the proposed protocol is efficient and robust than the existing protocols.

Keywords: Internet of Things, Wireless Body Sensor Network, HealthCare, Security, Hash function, Mutual Authentication.

AVCE_IJSRST_165: ANALYSIS OF BREAST CANCER IN CNN USING MODIFIED LOGISTIC REGRESSION ALGORITHM

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Abstract- Primary identification and prediction of type of the cancer ought to develop a compulsion in cancer study, in order to assist and supervise the patients. The significance of classifying cancer patients into high or low risk clusters needs commanded many investigation teams, from the biomedical and the bioinformatics area, to learn and analyze the application of machine learning (ML) approaches. Logistic Regression method and Multi-classifiers has been proposed to predict the breast cancer. To produce deep predictions in a new environment on the breast cancer data. It explores the different data mining approaches using Classification which can be applied on Breast Cancer data to build deep predictions. Besides this, this study predicts the best Model yielding high performance by evaluating dataset on various classifiers

Keywords: bioinformatics,machinelearning,logisticregression,clusters,classifiers

AVCE_IJSRST_166: IOT BASED BATTERY MONITORING SYSTEM FOR E-VEHICLE

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Abstract – In real-time monitoring of lithium ion batteries based on Internet of things is proposed system monitors and stores parameters that provide an indication of the lithium ion battery's acid level, state of charge, voltage, current, and the remaining charge capacity in a real-time scenario. The current state of the battery is sent to the e-vehicle company's cloud and the current location of the nearby charging station is received from the cloud. The proposed IOT based battery monitoring system consists of two major parts 1) Battery monitoring device 2) User Interface based on the experimental results, the system is capable to detect degraded battery performance and sends notification messages to the cloud and retrieves the location of the charging station.

Keywords*:* Internet of things, Battery monitoring system, Find the location.

AVCE_IJSRST_167: DEEP LEARNING BASED VISCERAL ADIPOSE TISSUE SEGMENTATION USING ABDOMINAL IMAGES ON MRI

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Abstract **-** Obesity is closely related with increased risk of many diseases such as diabetes, hypertension, strokes, cardiovascular diseases and cancer. MRI is an accurate and most prevalent method to determine body fat distribution and quantification that causes obesity. The purpose of this work was to propose a novel approach for segmenting subcutaneous adipose tissue (SAT) and visceral adipose tissue (VAT) using MR images of abdomen. A deep convolutional neural network was used to segment VAT and SAT. The segmentation results were compared to the ground truth produced by base-line CNN. The Dice coefficients, and accuracy shows similarity between two methods in quantifying VAT and SAT. This study demonstrates the feasibility of applying a new deep learning based scheme to automatically segment VAT from MRI data with high accuracy.

Keywords**:** Visceral adipose tissue (VAT), Subcutaneous adipose tissue (SAT), Convolutional neural network, Deep learning.

AVCE_IJSRST_168: REAL TIME APPLICATIONS OF INDUSTRIAL IOT IN VARIOUS FIELDS – A SURVEY

S.Vasudevi

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Abstract **-** Industrial Internet of Things (IIoT) , a branch of Internet of Thing (IoT) is the application of IoT in manufacturing and other industrial processes to improve their operational efficiency. It uses ubiquitous sensed data and perform advanced cloud based analytics using AI and machine learning algorithms to perform real time actions. IIoT application is found in many areas such as manufacturing industry, mining industry, healthcare industry, oil and gas industry, agriculture and so on. By using IIoT in manufacturing industries, we can resolve the drawbacks in traditional manufacturing by predicting the machine failure earlier and solve it immedietly thereby reducing the operational cost, resource wastage and improves the worker's safety. Application of IIoT in healthcare domain is also an important consideration. In this paper, the usage of smart sensors and UAV in various IIoT applications are reviewed. This paper also focus on application of IIoT in various fields like smart factory, food industry, healthcare and power plants.

Index Terms **-** IIoT, UAV, Ubiquitous sensing, Cloud based analytics.

AVCE_IJSRST_169: SCALING THEORY MODEL FOR FERROELECTRIC SURROUNDING GATE TFET USING NEGATIVE CAPACITANCE

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Abstract - In this paper, an analytical model for modified Ferroelectric Surrounding Gate Tunnel FET with gate stack engineering and different gate metals has been developed. Furthermore, taking advantage of Gate stack engineering's scaling advantages and dual material engineering's high degree performance, the two have been combined in a novel structure known as Surrounding Gate (SG) Tunnel FET with stacked oxide SiO2/high-k and dual material (DM). By solving 2D Poisson's equation with matching device boundary conditions, the two-dimensional(2D) potential at the surface and electric field mathematical models for the DMSG TFET are constructed. A mathematical expression for the band-to-band (BTB) Tunneling generation rate is obtained using Kane's formula, and then used to compute the drain current. The impact on the proposed device performance due to the variation of different device parameters has also been studied. The mathematical results have been verified using the simulated results obtained from ANSYS, a 3-D device simulator.In addition,the modelled TFET is implemented by using inverter circuit.

Keywords: Tunnel field effect transistor (TFET), Stacked Gate, Analytical Modeling, Poisson equation, Surface potential, Electric field

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AVCE_IJSRST_170: ENCHANCEMENT OF QUADRATIC ASSIGNMENT PROBLEM USING SLIME MOULD ALGORITHM

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Abstract - The QAP problem is one of the most challenging NP-hard combinatorial optimization problems. The aim is to minimise the sum of the distances multiplied by the corresponding flows by assigning all facilities to different locations. As a result, this paper proposes the Slime Mould Algorithm Quadratic Assignment Problem (SMAQAP) for solving this problem in a reasonable amount of time. Slime mould algorithm (SMA) is a new stochastic optimizer with a mathematical model that uses adaptive weights to simulate the slime mould's mechanism of producing positive and negative feedback propagation wave centred on the bio-oscillator in order to form the effective approach for linking food with high exploratory ability. Then, we tested our algorithm on QAPLIB's benchmark instances. The proposed SMAQAP is compared with genetic algorithm (GA), particle swarm optimization (PSO) algorithm and firefly algorithm (FA) to solve the quadratic assignment problems.

Keywords: Metaheuristics, Combinatorial optimization, Slime Mould Algorithm, Quadratic Assignment Problem

AVCE_IJSRST_171: ECO-FRIENDLY LAWN MOWER

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Abstract – The important function of mower is reducing the plants to a most pleased appearance or cutting down the entire unwanted plant to save the nearby plants from the lack of nutrition due to these weeds. So, the already existed conventional mowers are big in size and also using the fossil fuels to function. So, it may pollute the environment and also requires manual power. So, to reduce this type of blunders, we are getting into the robotic environment where it can work without any man power and also will not pollute the environment as it is Eco-Friendly. With the help of this bot, we can not only do the cutting/reducing the plants but also can collect the waste plants which can be given as a natural fertilizer. This Eco-Friendly Lawn Mower can have wider range, so it can rugged in search for all quite places also. In this mower, the gear wheel arrangement is given for adjusting the height of the weeds which we want cut down. This will provide us the up and down movement for the device, so wherever we want to cut/reduce the particular amount of weeds we can adjust the height of this device as much as we want with the help of this arrangement. As advancement, we can use IoT for this so that we can get some wider working range of the mower.

AVCE_IJSRST_172: UNMANNED SOLAR POWERED STREET LIGHTING SYSTEM

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Abstract - Nowadays energy sources are regulated and renewable energy sources are being used to meet the increase in energy demand. Because the price can be reduced by using the easily available energy. Besides the project is based on the minimum loss of available energy and the maximum utilization. During the daytime the solar cell will be collect the available solar energy and it is stored in battery. The stored energy is used to illuminate the street lamp at nighttime. This system provides an energy saving activity by the method of using automation. The automation method is based on sensors. The "ON"/"OFF" switch can be automated by using the sensors when a dark sensor and a light sensor provides the automatic "ON/OFF" facility to the automatic street lights. So that it will be glowing automatically when it is required. It is used again for auto intensive algorithm has applied with the help of microcontroller to control the intensity of lights as per the required. It can avoid energy loss due to the unwanted glow of the automatic street lights.

Keywords: Solar panel, Battery, Microcontroller, LDR(light dependent Resistor), LED(Light Emitting Diode), Solar Energy, IR sensor, Photovoltaic cell.

AVCE_IJSRST_175: SMART LOCATION-BASED TOURIST PLACES RECOMMENDATION SYSTEM

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Abstract - This paper proposes a novel tourism application that provides personalized location based recommendation of tourist places. The application consists of two modules, namely Ranking of Places and Tour Guidance. The first module takes user preferences and data from Tripadvisor to provide a ranked list of recommended places using a Hybrid Algorithm. The ratings are given using a weighted average approach. The tour guidance module acts as the interface for the user by devising an interactive and dynamic tour plan. The application receives input from the user regarding his request for a tour plan. The user is provided with recommendations, keeping in mind the preferences of the user, live information and popularity of places. Efficient routing between these places is done with an azure maps API which denotes the places visited and the places yet to visit. The user interface consists of a map where the user can click on the lace he wants to visit and can go on visiting places nearby.

Index Terms: Tourism, Selenium, azure maps, Web Scraping

AVCE_IJSRST_176: CURSOR CONTROL USING FACIAL MOVEMENTS FOR PHYSICALLY CHALLENGED PEOPLE

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Abstract- Ascomputer technology is growing rapidly, the importance of human interaction is also increasing immensely. We tend to depend on computers a lot for everything nowadays. Computers are designed to be readily accessible for normal individuals. Unfortunately, people with certain disabilities cannot able to operate the computers. The idea of this paper is to provide a simple and convenient method by using the user's facial movements and voice. The movement of the cursor is accessed by automatically adjusting the eye and facial movements. And the voice is used to access the web-browser for various purposes. Main focus is to create a human-computer interaction cost effectively. Moreover, implementing a control system helps them to operate the computer by eliminating the help of another individual.

Keywords: Human-Computer Interaction, Computer vision, Voice, Python.

AVCE_IJSRST_177: DESIGN AND ANALYSIS OF COMPACT PLANAR ANTENNA WITH DEFECTIVE GROUND FOR UWB APPLICATION Jayanth M, Karthikeyan B, Lokesh S Nithieshwaran K and Karthi J

Abstract **-** This paper proposes a new patch antenna design using defected ground structure (DGS) for ultra wideband frequencies from 3 GHz – 9.4 GHz. The proposed antenna has been designed using rectangular patch with FR-4 glass epoxy substrate having relative permittivity of 4.3 while the height of substrate being kept at 1.6mm. Various parameters like return loss, voltage standing wave ratio (VSWR), directivity, radiation pattern and bandwidth are analyzed. It has been observed that a good impedance match (return loss ≤ -10 dB) for the entire band is achieved. This antenna can be used for wireless applications which include WiMAX, Wi- Fi, satellite applications and some applications in X band.

AVCE_IJSRST_221: REVIEW ON PLANT RECOGNITION SYSTEM T

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Abstract **-** Nature is closely related to man. Information technology has revolutionized and automated many fields and has not left nature too. In that manner, automated recognition systems for plant have been formulated by researchers in order to perform classification and identification in an efficient and accurate manner. The recent advancement in Science and technology has made it possible through feature extraction in image processing. This paper encompasses the plant recognition system analyzed by researchers. The paper discusses about various features which accounts for the classification and recognition of the plants.

Keywords: noise removal, classifier, feature extraction, leaf recognition, image processing

AVCE_IJSRST_174: IOT BASED VEHICLE PARKING MANAGER Rakshana R[1'] Rohith S[1'] Santhosh Bala S[1], Santhosh Kumar S[1], Dr. Senthil Kumar K[2]

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Abstract - In today's fast-paced world, time is of the essence. With the growing number of vehicles in urban and semi-urban towns and cities the time wasted in traffic is alarmingly high. Too much dismay, the time wasted in finding a parking spot is equally high and can be easily prevented. When properly planned, parking vehicles can be a swift process. An Automated Parking Manager with Cameras and wireless sensor networks is proposed in this paper. Several versions of cameras exist and there are no parking lots today without a camera. Video Surveillance over wireless sensor networks has been widely adopted in various cyber-physical systems including border security, traffic analysis, healthcare systems in hospitals, public safety (bus, mall etc.), wildlife tracking and environment/weather monitoring etc. However, this paper aims to solve a rather interesting scenario that is not much discussed in reality. Instead of using the cameras only for security and surveillance purposes, cameras can also be used to monitor the parking lot for empty spaces with the help of Wireless Sensor Networks. The usage of Wireless Sensor Networks improves reliability and acts as a fool-proof technique to detect the presence or absence of a vehicle in a particular spot. All these camera systems available in the market run 24x7 and have enormous junk data stored in the form of videos. So the proposed system in this paper does not store any video information. Media data is always the heavier data to store. Instead, very little information in the form of text is stored about the vehicles and their designated spots, thereby reducing huge storage issues. This solution does not require any major modifications to the pre-existing architecture of the surveillance infrastructure in any parking arena. It only requires an extension and some amount of processing to choose and store the required information on a cloud-based storage so that it can be viewed by users from an Android Application from anywhere. This allows the users to make well-informed decisions about the parking situation in the complex they want to visit. The proposed solution can be applied to shopping complexes, theatre's, drive-ins and pretty much any area with a parking lot.

Keywords: IoT, NodeMCU, Sensor Node, Modem.

AVCE_IJSRST_173: A SYSTEM FOR SAVING WILD ANIMALS FROM THE FOREST FIRE USING RASPBERRY PI Jeya Deepika K, Pavithra N, Rajeshwari A, Dr.K.Karthikeyan Department of EEE, RIT

Abstract - Forest fire causes greater havoc to forest and endangers wild life. In this paper on intelligent early warning fire detection system based on image processing on IoT platform was proposed. A real time flame detection algorithm that differentiates fire and fire colored object is used to detect the true fire incident.Rasperry pi microcontroller based IoT platform detect the forest fire as early as possible and takes speedy action before the fire spreads over large area. Sensors such as smoke sensor are connected with Raspberry pi. IoT (server) connected with Raspberry pi alerts the fire and sprinkler motor spraying the water, then GPS will be sharing the location.

Keywords: Raspberry pi 3B+ module,Gas sensor, Thermal camera,IOT(server),GPS module,buzzer,Dc motor,Driver board

AVCE_IJSRST_178: GESTURE BASED HUMAN-MACHINE INTERFACE

Arun P[1], Balachandiran P S[1], Aadhithya V[1], Arshath Imran R[1], Shanmuga Priya P[2],
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Abstract - Computers have been a very integral part of people's lives for a long time. In recent times, computers have become technologically well advanced being able operate at high speeds and capable of performing a wide range of functions. In spite of all these developments, the input technologies being employed in computers have various usage constraints that have been posing as a major hurdle for users against the ever evolving technology. The conventional mouse restricts movement and additionally require a cable to work. Furthermore, excessive usage of this mouse have being extremely strain inducing on the users. Hence a necessity for an efficient substitute for the conventional means arises. One such substitute is gesture, which is a natural form of communication. They are a very effective form of communication and are comparatively more spontaneous. Gestures don't restrict movement nor do they require any specific structure to work on. The proposed system employs gesture movements to be programmed for performing various mouse operations such as clicking and dragging. In addition, the system includes gestures to effectively function as a remote keyboard wherein specific gestures and movements can be assigned to each key.

Keywords: Computers, Gestures, Mouse, Keyboard, wireless.

AVCE_IJSRST_180: DESIGN AND ANALYSIS OF ROOF TURBINE VENTILATOR BLADE ANGLES TO PRODUCE ELECTRICITY FROM WIND ENERGY

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Abstract **-** This paper describes about the modified roof ventilator that can generate electricity from wind energy. wind energy is one types of renewable energy and it does not cause pollution. therefore, presently, there is the technological development of applying wind energy for the electricity generation. wind energy is used to replace fossil energy such as oil and coal, causing environmental pollution. the new modification of the roof ventilator system is by changing the blade angles to help it to spin faster and more efficient. so, we can analyse the roof ventilator system by changing the combinations of blade angles to help it to spin faster and efficient to generate electricity from wind energy. also, we can change the material of the blades to reduce its weight to get more rotation at low wind speeds. comparing the observed performance of new design with previous design to get more efficient power output. This system is mainly suitable to use for the highway places. ***Key words:*** Roof ventilator, Electricity generation, Blade angles, Wind energy**.**

AVCE_IJSRST_182: CFD ANALYSIS OF SHELL AND TUBE HEAT EXCHANGER WITH DIFFERENT BAFFLE ARRANGEMENTS

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Abstract **-** The shell and tube heat exchanger is a condenser type heat exchanging device it can be used in thermal power plant, oil and gas industries in this shell side baffle support is used to holding the tubes and create the turbulence flow in the shell side it will increase the heat transfer rate, the baffles are classified as a single segmented, double segmented and triple segmented which is used to reduce the pressure drop, in this research heat transfer rate and pressure drop in the single, double and triple segmented heat exchanger analysis through CFD Methodology, and it was concluded with double segmented get higher heat transfer coefficient and higher pressure outlet.

Keywords: Shell and tube heat exchanger, heat transfer coefficient, pressure drop.

AVCE_IJSRST_183: DATA AGGREGATION USING SQUIRREL SEARCH ALGORITHM IN WIRELESS SENSOR NETWORKS

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Abstract **-** In a wireless sensor network (WSN), individual sensor nodes have limitations such as energy consumption, packet delivery, and delay and network lifetime. Data aggregation is an important method for lowering energy consumption of each sensor nodes in WSN. This helps in achieving increased network lifetime in WSN. Therefore, in order to improve the energy efficiency and lifespan of the network, Cluster-based data aggregation using Squirrel Search Algorithm is proposed in this paper.Cluster Head(CH) selection plays an important role for increasing the network lifetime. Criteria such as energy, distance are taken into consideration for selecting sensor nodes. For Cluster Head (CH) re-Electing, criteria such as its Residual energy and Received Signal Strength (RSS) are taken into consideration. Hence the sensor nodes with best CHs selected. Simulation results conducted in MATLAB shows that the Data Aggregation using Squirrel Search Algorithm (SSA) was able to improve the network lifetime, energy efficiency, delay compared with the Firefly Algorithm (FA) and Shuffled Frog Algorithm (SFA).

Keywords: WSN-Energy Consumption-Network Lifetime-Data Aggregation-Squirrel Search Algorithm.

AVCE_IJSRST_190: MEDICAL IMAGE DENOISING USING TWO-STAGE ITERATIVE DOWN- UP CNN AND SURF FEATURES Jinisha A C, Saranya R

Department of Electronics and Communication Engineering

Abstract- Most of existing medical image denoising methods focus on estimating either the image or the residual noise. Moreover, they are usually designed for one specific noise with a strong assumption of the noise distribution. Explicitly modeling the distributions of these complex noises in the medical image is extremely hard. They cannot be accurately held by the Gaussian or mixture of Gaussian model. To overcome the two drawbacks, in this work, we propose a deep iterative down-up convolutional neural network (DIDN) for image denoising, which repeatedly decreases and increases the resolution of the feature maps. To better cope with the gradient vanishing problem in this very deep network, we introduce speeded up robust features (SURF) which is a patented local feature detector and descriptor. Extensive experiments have been performed on several kinds of medical noise images, such as the computed tomography and ultrasound images, and the proposed method has consistently outperformed stateof-the-art denoising methods. ***Keywords:*** Gaussian model, deep iterative downup convolutional neural network, Speeded up robust features, denoising.

AVCE_IJSRST_191: ENHANCED SECURITY MODEL IN CLOUD USING NEURAL NETWORKS

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Abstract - In order to improve redundancy elimination security is an important factor to be considered. To increase the security of cloud storages a new method of neural network based security enhancement has to be provided. Data confidentiality with sensitive data sets and provides data isolation. The dynamic fragmented component automatically extends and shrinks during insertion and deletion, respectively, and also provides explicit dynamic data support, including block update, delete, and append. The Neural Data Security model is used to encrypt and decrypt the sensitive data by using cryptography. It attains data security for public and private keys using cryptography using Neural Networks. The Data Security Model is more efficient and effective for all kinds of queries, and performance is high at the data confidentiality level. This model provides less expensive, higher performance and an expandable storage system to enhance the security.

KeyWords: Confidentiality, Neural Networks,, Security, Redundancy, Fragmentation Introduction.

AVCE_IJSRST_192: HUB FLOATING-POINT ADDER USING DOUBLE PATH

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Abstract - Several previous publications have shown the area and delay reduction when implementing real number computation using HUB formats for both floating-point and fixed-point. In this paper, we present a HUB floating-point adder for FPGA which greatly improves the speed of previous proposed HUB designs for these devices. Our architecture is based on the double path technique which reduces the execution time since each path works in parallel. We also deal with the implementation of unbiased rounding in the proposed adder. Experimental results are presented showing the goodness of the new HUB adder for FPGA ***Keywords***: component, formatting, style, styling, insert (key words)

AVCE_IJSRST_193: VLSI IMPLEMENTATION OF MODIFIED AES ALGORITHM

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Abstract - Data transferred in an electronic way is vulnerable to attacks. With an aim to protect data for secure communication, a new Hybrid non pipelined Advanced Encryption Standard (AES) algorithm based on traditional AES algorithm with enhanced security features is proposed in this work. Abysmal analysis of the AES algorithm implies that the security of AES lies in the S-box operations. This paper presents a new approach for generating S-box values (modified S-box) and initial key required for encryption/encryption (improved key generation) using PN Sequence Generator. The AES algorithm with proposed modifications shows significant improvement in the encryption quality as compared to traditional AES algorithms. The traditional AES algorithm equipped with proposed novel modified S-box technique and improved key generation technique gives an avalanche effect of 60% making it invulnerable to attacks. The proposed design is synthesized on various Field Programmable Gate Array (FPGA) devices and compared to the existing designs resulting in significant improvement in throughput. The proposed design is implemented on Spartan6 FPGA devices.

AVCE_IJSRST_194: SMART SOLAR ELECTRIC VEHICLE

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Abstract - The proposed system is to replace the usage of non-renewable fuel which we are using in day to day life. The main idea of the project is to design a solar three-wheeler vehicle that aims to tackle the problems related to pollution, shortage of fuel and to monitor various parameters that improves the safety of the driver. Thus, companies and governments had made strong investments in the automotive sector especially in the development of electric vehicles (EVs) and the technologies associated with them. The paper surveys a few existing systems and provides an overview of a solar three wheeler vehicle that incorporates various safety features.

Keywords: Solar Panel, Safety Parameters, Throttle, BLDC Motor, GPS, Charge Controller, Dynamo, Brake.

AVCE_IJSRST_195: SMART COMMUNICATION SYSTEM FOR HUMAN LIFE SAFETY SYSTEM WITH ELECTRICAL INFORMATION Mohan S, Gowri A, Monisha P, Bhuvaneswari B, Deepika A

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Abstract - An electric shock is the effect of passing an electric current through the body. The minimum current a human can feel is thought to be about 1 milli-Ampere (mA). The effect can range from minor tingling to muscle spasms, tissue damage, fibrillation of the heart, loss of consciousness, and even death. These effects depend on a variety of factors, including the strength of the current, duration of the current, the area of the body through which the current passes, and whether the person is grounded or insulated from the ground. Death caused by an electric shock is referred to as electrocution. An IOT based control system will introduce the early warning and control technique for the electric shock.

AVCE_IJSRST_196: JOINT BEAM AND USER SCHEDULING FOR MILLIMETRE WAVE DOWNLINK MIMO SYSTEM

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Abstract **-** This paper investigates the user selection algorithm for millimetre wave (mm-wave) Multiple Input and Multiple Output (MIMO) systems, where multiple users are served simultaneously, that cause interference among the users. Therefore, to improve the performance in terms of maximization of sum rate and reduce the interference, scheduling plays a major role in the mm-wave MIMO system. The proposed scheduling algorithm is simulated in sub 6GHz frequency and the algorithm depends on the channel information. Finally, the simulation results validate the algorithm in terms of sum rate. The proposed algorithm provides higher sum rate when compared to the conventional method

Keywords: Millimeter Wave, Multiple Input Multiple Output, Scheduling.

AVCE_IJSRST_197: MUTUAL AUTHENTICATION AND KEY AGREEMENT SCHEME BASED ON PEER-TO-PEER CLOUD COMPUTING

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Abstract - Cross-cloud data migration is one of the prevailing challenges faced by mobile users, which is an essential process when users change their mobile phones to a different provider. However, due to the insufficient local storage and computational capabilities of the smart phones, it is often very difficult for users to backup all data from the original cloud servers to their mobile phones in order to further upload the downloaded data to the new cloud provider. To solve this problem, we propose an efficient data migration model between cloud providers and construct a mutual authentication and key agreement scheme based on elliptic curve certificate-free cryptography for peer-to-peer cloud. The proposed scheme helps to develop trust between different cloud providers and lays a foundation for the realization of cross-cloud data migration. Mathematical verification and security correctness of our scheme is evaluated against notable existing schemes of data migration, which demonstrate that our proposed scheme exhibits a better performance than other state-of-the-art scheme in terms of the achieved reduction in both the computational and communication cost.

Index Terms: Cloud computing, data migration, elliptic curve, authentication, key agreement.

AVCE_IJSRST_198: DESIGN AND IMPLEMENTATION OF THREE FLOOR LIFT USING PLC

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Abstract - Elevator control systems use relay logic to operate. Traditional elevator systems have a higher number of relay logic connections, making debugging more difficult. We're using a programmable logic controller to construct a three-level elevator control system. Despite the fact that elevators are not typically operated by PLC, we used it because it is a suitable device in which to explore a variety of PLC features. Industry's main goal is to improve stability, operating speed, reliability, and protection. Contractors and switches are used in industrial automation to replace a variety of equipment. Elevator is a vertical carrying system that is used to move people and goods. Elevators are the most significant necessity for multi-storage buildings. The floor suggestion is regulated by a limit switch. The limit switch is used to keep the floor in place. The elevator filing cabinet is moved by a DC motor. In order to control the elevator in both the upward and downward track, an electromagnetic style relay is used in the organize circuit. Elevators are an important part of infrastructure because they minimize human effort, reduce accidents caused by rope breakage, and increase elevator performance and speed. Elevator control is simple with a PLC.

Keywords: Programmable Logic Controller, Ladder Logic diagram, elevator cabin, limit switch, push button and relay.

AVCE_IJSRST_199: DESIGN AND FABRICATION OF SUNTRACKING SOLAR PANEL WITH AUTOMATIC PANEL CLEANING SYSTEM

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Abstract - Sun is a low cost source of electricity and instead of using the generators; solar panel can convert direct sun rays to electricity. Conventional solar panel, fixed with a certain angle, limits there area of exposure from sun due to rotation of Earth. In pursuing to get the maximum energy converted from the sun, an automatic system is required which should be capable to constantly rotate the solar panel. The automatic solar tracking system solves this problem. A microcontroller is used as the hardware along with the comparison unit of LDR values for detecting the ray strength and shift the panel towards the maximum output from the sun.Servo motor is used to rotate the panel to the desired position. The system tracks by comparing the intensity of light falling on the sensors. Based on the sensors output the motor can rotate the solar panel to meet the sun's maximum position.This system also connected with cleaning arm, which cleans the panel in suitable rotation with the help of the servo motor.This cleaning feature helps to increase the efficiency of the solar power.

AVCE_IJSRST_200: DESIGN OF TWO SPEED GEARBOX FOR CNC LATHE

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Abstract- Since gearboxes in lathe are positioned inside the headstock, an aftereffect of vibration is experienced in the spindle and further leads to inaccuracy in the finished products, also causes inconveniences during the maintenance and also increases difficulties if any replacements are needed. In a complex work the accuracy plays a major role and hence the above problems are to be eliminated accordingly.This project aims to design a gearbox which can be placed outside the headstock and also aims to design in such a way that a single base is utilized for Lathe and new gearbox.

Key Words: Gears, Gearbox, CNC, Lathe, Direct Drive, Power Transmission.

AVCE_IJSRST_201: ROBOTIC VECHICLE FOR MATERIAL HANDLING SYSTEM IN TIRE MANUFACTURING INDUSTRY A.Naveen [1], K. Bhavankumar[2] , K.Saravana karthikeyan[3] , V.Manikandan[4] , P.Selvakumar[5]

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Abstract - Material Handling is not a Production Process but a necessary link between Raw Material and actual Process of Product manufacturing, Materials handling includes all the activities with regards to acquisition, handling, control, and movement of material used in manufacturing like Loading, Unloading and transportation of Materials is carried out. . The main objective of this project is to fabricate a robotic trolley for material handling in industries. In this project a robotic vehicle is fabricated which runs like a car by carrying tools from place to another.The overall aim of the project was to identify the risks associated with pushing and pulling of heavy trolley in tire manufacturing industry and also to improve the material handling in heavy trolley without suffering any deformation or local fractures if it would go into real world production at an ideal scale. And to improve over all material handling with lean approach. Material handling is an essential and significant component of any productive activity; it is something that goes on in every plant all the time. When large amounts of material are being moved, this is because accidents can happen when large material is being moved. This results into organisations paying compensation lawsuits.

Keywords: Ergonomics, Heavy trolley, Law suits, Lean approach, Manufacturing, Material handling, Risk.

AVCE_IJSRST_202: DESIGN OF PIEZOELECTRIC CAR

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Abstract **-** I have the developed of the project design piezoelectric car by using CREO software. The growth in power consumption of portable electronic gadgets and the idea of harvesting renewable energy in human surrounding arouses a renewed hobby. This technical paper specializes in one such advanced approach of power harvesting the use of piezoelectric car. Piezoelectric substances can be used as mechanisms to switch mechanical energy, normally ambient vibration, into electrical energy that may be stored and used to power other gadgets. A piezoelectric substance is one that produces an electric powered feed while a mechanical stress is carried out. Conversely, a mechanical deformation is produced whilst an electric powered field is carried out. Piezo-film can generate enough electrical density that can be stored in a rechargeable battery for later use. Cleaner, more sustainable forms of electrical power are needed in order to keep costs lower, to maintain positive and productive relationships with neighbours and to insure a healthier environment for future generations. The use of piezoelectric devices installed in terminals will enable the capturing of kinetic energy from foot traffic. Electrical energy can also be generated from traffic vibrations (vibrations in the road surface) using piezoelectric material.

Keywords: piezoelectric car, CREO software, substance, vibration, piezo-film, electrical energy.

AVCE_IJSRST_203: ANALYSIS OF TWO SPEED GEARBOX FOR CNC LATHE USING ANSYS v16.0 SOFTWARE

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Abstract **-** Gearbox are usually used for obtaining variable speeds and torque to the headstock spindle in lathe according to the work done. Usually the gearbox is mounted on the headstock. When the machine starts working the spindle of the headstock gets vibrations and hence it causes various problems such as structural vibrations which affects the accuracy of the work done, inconveniences during the maintenance and also increases difficulties. To recover these problems, we decided to design and analyze a 2-speed gearbox for CNC lathe which can be mounted outside the headstock. Hence it can reduce the ibrations and hence we get an accurate product.

Key Words: Gears, Gearbox, CNC, Lathe, Direct Drive, Power Transmission

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AVCE_IJSRST_204: PLC BASED AUTOMATED DRILLING MACHINE

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Abstract **–** Today most of the industries are trying to make improvement in their production processes as well as relevant machinery to improve the productivity along with the automation. Drilling, taping, boring etc. are such operations which are most frequently used in small and large scale industries. Most of the industries uses the conventional method says hand tapping drilling, boring. This conventional method is very time consuming process, less accurate and includes higher labour cost, and ultimately leads to less productivity. So there is a scope to develop the machine for various operation which would overcome all the problems faced by the conventional process. So we are going to develop the portable pneumatics machine which will make the use of compressed air for it operation less human involvement as which is used in hand tapping, drilling, boring.

AVCE_IJSRST_205: COIR FIBRE & GLASS FIBRE REINFORCED EPOXY BASED HYBRID COMPOSITE Akhil A[1], Anandu P R[2] , V Ramkumar[3], Dr.V Manikandan [4]

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Abstract- Fibre reinforced polymer composites has been used in a variety of application because of their many advantages such as relatively low cost of production, easy to fabricate and superior strength compared to neat polymer resins. Reinforcement in polymer is either synthetic or natural. The objective of the project work is to study the physical and mechanical behaviour of coir/glass fibre reinforced epoxy-based hybrid composites. The project focuses on the effect of variation in the arrangement of fibre layers on the mechanical properties of the fabricated composites. Specimen is prepared with coir fibre and glass fibre as reinforcing material and epoxy resin as a matrix in the polymer composite. The arrangement of the coir fibre and glass fibre layers were changed and moulding was done by hand lay-up technique, keeping the mould closing as constant. The specimens were subjected to tensile strength, flexural strength and impact strength test and the failure of the composite was examined.

AVCE_IJSRST_206: AUTOMATIC RAILWAY TRACK CRACK DETECTION USING ULTRASONIC SENSOR AND GSM MODEM

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Abstract **-** In our project automatic railway track crack detection usingultrasonic sensorand gsm modem beings with an introduction to railway track Inspection and it's various applications. The sensors are used to detect the crack in the railway track automatically and this signal is given to FM transmitter unit. FM receiver unit is fixed to the nearest railway station. The transmitted signal is received by the receiver unit, and gives the information to the station master by alarm with indication. This is a very efficient method of checking the cracks in the railway track and this is to be used in modern engineering industries. The manual efforts can be completely avoided by using this modern equipment.

AVCE_IJSRST_207: PNEUMATIC PIPE BENDING MACHINE

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Abstract **-** The main objective of this paper is to implement the Pneumatic Pipe bending machine in the construction sites with less cost compared to the existing bending machines, and increasing the productivity of the stirups. The automation strategy, when implemented is believed to result in reduced cycle time, costs and improved product quality. Other possible advantages are repeatability, increased productivity, reduced labour and integration of business systems. Automation is achieved with the help of pneumatic system.

AVCE_IJSRST_208: DESIGN AND FABRICATION OF HYBRID (GLASS/FIBRE) COMPOSITE MATERIALS

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Abstract **–** Nowaday's composites are playing a dominant role in many industrial applications. Different types of composites are fabricated by using hand layup method. Natural fibers are very tough, lightweight and also comparatively very cheap. This work concerns the production of hybrid composites by hand lay-up method and predict the effect of process parameter on tensile, flexural and compression strength of jute and glass fiber reinforced polyester-based hybrid composites. The mechanical properties like tensile, flexural and compressive strength were evaluated for the specimen cut from the fabricated composite plates to the dimensions according ASTM standard.

AVCE_IJSRST_209: PLC BASED PRODUCT SORTING CONVEYOR MACHINE

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Abstract - The primary reason for the framework is to separate the item as for their shading code a naturally circulate the item as per their hues. In this anticipate we will distinguish the shade of the item which is put on transport line you need and that question is dispatch to separate box. This can be accomplished effectively by utilizing headway as a part of innovation particularly in the field of inserted frameworks. Presently a day's such a large number of helpful innovations are turning out to make our way of life more solace, extravagant and secure. In this anticipate we are utilizing Arduino (controller) and shading sensor. This shading sensor distinguishes shading and gives serial yield of RBG worth. It can distinguish 16.7 million shading shades giving RGB esteem for the recognized shading. The distinguished shading is recognized as measure of three essential shading values to be specific Red, Green and Blue with 8-bit exactness for every essential shading. Any shading can be isolated or consolidated into three essential hues Red, Green and Blue utilizing the RBG values.

Keywords: Arduino, PLC, RBG, Shading sensor, Shorting, 8-Bit.

AVCE_IJSRST_210: DISIGN AND SIMULATION OF FLY CAR USING CREO 7.0 SOFTWARE

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Abstract - The aim of this project is to layout a personal aerial automobile (PAV) – Roadable plane i.e. Flying vehicle able to transporting two individuals and a small amount of bags from their door step to their vacation spot by way of making use of each road and air routes. The compact shape includes wings which remain folded on street and gets expanded when required for flight. This roadable plane falls below included style wherein all the additives can be carried in the car and the car may be converted into an aircraft inside few minutes of time vice versa. The combined layout of a car and aircraft eliminates the need of character vehicles for avenue and air, consequently reducing the value and time period of travel. On road the car is designed to run on battery and be propelled via a four cylindered piston engine even as on flight for that reason handing over an uncompromised flight.

AVCE_IJSRST_211: CAD MODELLING OF LUBRICATION OIL COOLING SYSTEM

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Abstract - I have the developed of the project design on modelized lubrication oil cooling system for automotive engine using CREO Software. This project gives a simulator version of an automotive engine based totally on bodily, semi physical, mathematical and thermodynamic equations, which lets in speedy predictive simulations. The complete automotive engine device is divided into several purposeful blocks: cooling, lubrication, air, injection, combustion and emissions. The sub-fashions and dynamic characteristics of character blocks are hooked up in keeping with automotive engine operating principles equations and experimental facts amassed from a automotive engine. The typical automotive engine system dynamics is expressed as a set of simultaneous algebraic and differential equations the usage of sub-blocks and S-Functions of Matlab/Simulink. The simulation of this version, carried out on Matlab/Simulink has been confirmed and may be used to obtain automotive engine overall performance, pressure, temperature, efficiency, warmth launch, crank perspective, fuel rate, emissions at extraordinary sub-blocks. The simulator could be used, in destiny work, to study the automotive engine performance in defective situations, and may be used to assist automotive engineers in FDI (fault analysis and estimation) in addition to designers to are expecting the behavior of the cooling machine, lubrication machine, injection device, combustion, emissions, so one can optimize the dimensions of different additives. This application is a platform for fault simulator, to analyze the effect on sub-blocks automotive engine's output of changing values for faults parameters including: defective gas injector, leaky cylinder, worn fuel pump, damaged piston rings, a grimy turbocharger, grimy air clear out, dirty air cooler, air leakage, water leakage, oil leakage and infection, fouling of heat exchanger, pumps.

AVCE_IJSRST_212: BIOCHAR COMPOSITE

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Abstract- Polymer composite has been used in a variety of application because of their many advantages such as relatively low cost of production, easy to fabricate and superior strength compared to neat polymer resin. Reinforcement in polymer is either syntenic or natural. The objective of the project work is to steady the physical and mechanical behaviour of biochar nano material based on epoxy matrix composite. The project focuses on the effect of differences in weight percentage of the nano material on the mechanical properties of the fabricated composites. The specimen is prepared with biochar obtained from rice husk and epoxy resin as a matrix in the polymer composite. The weight percentages were change and the moulding is done in a closed mould. The specimens were subjected to tensile strength, flexural strength and impact strength test and the failure of the composite was examined.

Key Words: Biochar, Composite, Epoxy Resin, Mould

AVCE_IJSRST_213: JEKA – THE INTELLIGENT CHATBOTS USING VARIOUS ALGORITHMS

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Abstract **-** Machines are working similar to humans because of advanced technological concepts. Best example is chatbot which depends on advanced concepts in computer science. Chatbots serve as a medium for the communication between human and machine. There are a number of chatbots and design techniques available in market that perform different function and can be implemented in sectors like business sector, medical sector, farming etc. The technology used for the advancement of conversational agent is natural language processing (NLP). Due to these advancements in artificial intelligence concepts, the precision and perfection has been greatly improved, chatbots have become a good and optimal option for many organizations. There is also a chatbot system in the travel sector which collects user searches and provides appropriate search results, but still the research is going on to improve customer satisfaction. We introduce the background of chatbots so as to get an idea of how chatbots have been developed. This paper also gives a brief look on recent design techniques used and thus one can get to know what advancements can still be done in the chatbot system for various sectors.

Key Words: Artificial Intelligence, Chatbot, Natural Language Processing, LSTM, HEIM, Sequence to Sequence, RNN, Pattern Matching, Naïve Bayes.

AVCE_IJSRST_218: DESIGN AND IMPLEMENTATION OF AUTONOMOUS PAINT SPRAYING MACHINE USING PLC

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Abstract- The main objective of the project is to paint the wall of tall buildings with automated structure using PLC. The construction projects are getting bigger and more complex; however, there is a huge demand for painters. As a result, the amount spent for painting also got accreted. Currently automated robot path planning has always caused a bottleneck for the spray painting processes because typical manual teaching methods are time consuming, error-prone and skill dependent. The project is to avoid the fatal accidents confronted by the painters while painting tall buildings. Here we provide automatic spray painting machine to solve this problem in all kind of buildings. In this project the time spent for painting is reduced and so it is a cost efficient, by avoiding the wastage of paint during painting the openings of the wall. As a result, this project is not only used to protect the lives of the painters but also to reduce the amount of time exploited for painting.

Keywords: Programmable Logic Controller, Screw Mechanism, Autonomous Paint Spray, DC Motor, Frame**.**

AVCE_IJSRST_214: ANALYSING THE QUALITY OF FRUITS AND VEGETABLES USING IOT INTEGRATED WITH A SMART PHONE APPLICATION

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Abstract - India is the 1st largest producer of fruits & 2nd in vegetable production in the world. Now consumers are more conscious about quality and source of their foods. So Food safety is imperative to avoid food borne diseases and to ensure the public health. It is a major concern in order to prevent the food wastages and economic losses also. In the era of technology advancement everything requires monitoring & controlling. A new generation of mobile sensing approaches offers significant advantages over traditional platforms in terms of speed, control, low cost, ease of operation, data management, require minimal equipment and user involvement. Sensing technology with cellphones enables the development of powerful platforms for many applications including food safety analysis. To determine the quality of food materials non- destructively is a difficult task, numerous methods are available but most of the methods are in destructive form. In recent year's non-destructive methods of food quality evaluation have been developed. In this work, temperature sensor, humidity sensor, gas sensor and LCD display are used as hardware tools to measure the real time parameters of respective food. A specially developed application is used as software tool, which get the real time parameters from sensors, takes picture of that particular fruit/vegetable as inputs, then compare sensor inputs with the preloaded data and process image to provide the accurate grade of respective food. This IOT based analysis will be beneficial for consumers as well as the producers to get the uniform high quality fruits & vegetables.

***Key Words*:** Android app, temperature sensor, gas sensor, Wi- Fi, Internet of Things, Arduino Uno.

AVCE_IJSRST_217: LASER BASED WIRELESS IMAGE TRANSMISSION SYSTEM USING BASE 64 ALGORITHM Anbarasi S[1], Bhuvaneswari N[1], Hamritha S[1], Swathi M[1], Sasirekha D[2]

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Abstract **-** Our project is basically a LASER (Light Amplification by Stimulated Emission of Radiation) communication system which transmits the signal through a laser beam. They work for clear line-of-sight conditions between transmitter and receiver unit. Laser based communication is a potential technique for its high bandwidth, high data transfer rate, reasonably large range, small size, low power consumption, immunity to interference and jamming and covertness of transmission. Sending and receiving the data using laser to encode and transmit the data is faster than other modes of communication.

Keywords:Laser, signal, interference, transmission, communication.

AVCE_IJSRST_215: INVESTIGATION ON MICROSTRUCTURE AND MECHANICAL CHARACTERIZATION OF TIG WELDED INCONEL 625 NICKEL BASED ALLOY

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Abstract **-** This paper deals with joining of 4 mm thick plates of Inconel 625 and ferritic stain- less steel (S.S) 316L by Tungsten Inert Gas (TIG) welding process without using the activated flux. Trial experiments were conducted to find the influence of welding current on the depth of penetration and depth to width (D/W) ratio. The studies proved that a complete penetration could be achieved in multi pass. Microstructure examination using optical and Scanning Electron Microscope (SEM) clearly exposed the development of unmixed zone and also the Heat Affected Zone (HAZ) of Inconel 625. The chemical components of the Inconel 625 and SS316L were determined using Energy Dispersive Analysis (EDAX). Tensile and bend failures were observed at the parent metal of Inconel 625 , SS316L and Inconel 625 & SS316L dissimilar joints. It was indicated from the notch tensile studies that the notch strength ratio was better than unity, which established that the weldments were ductile in all circumstances. The corrosion studies were carried out in the Nacl solution and it was found that Inconel 625 and SS316L dissimilar joint possess less corrosion resistance than similar SS316L weldment. It was inferred from the current study that the ultimate tensile strength of dissimilar weldments was better compared to similar weld-ments and the failure was observed in the parent metal for all the cases. Bend test results portrayed that dissimilar weldments possess better strength compared to SS316L weldments.

Keywords: Inconel625 @ SS 316L, TIG welding Mechanical properties Corrosion behavior.

AVCE_IJSRST_220: SMART WIRELESS POWER TRANSMISSION SYSTEM FOR AUTONOMOUS EV CHARGING

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Abstract **-** This paper presents a novel localization method for electric vehicles (EVs) charging through wireless power transmission (WPT). With the proposed technique, the wireless charging system can self determine the most efficient coil to transmit power at the EV's position based on the sensors activated by its wheels. To ensure optimal charging, our approach involves measurement of the transfer efficiency of individual transmission coil to determine the most efficient one to be used. This not only improves the charging performance but also minimizes energy losses by autonomously activating only the coils with the highest transfer efficiencies. The results show that with the proposed system, it is possible to detect the coil with maximum transmitting efficiency without the use of actual power transmission and comparison of the measured efficiency. This paper also proves that with the proposed charger set-up, the position of the receiver coil can be detected almost instantly, which indeed saves energy and boosts the charging time.

Index Terms: Wireless power transmission, car charging, electrical vehicle, efficiency, charging pad, sensor network, smart charger.

AVCE_IJSRST_216: SOLAR PANEL HYBRID CLEANING SYSTEM T. Senthamarai[1], S. Ida Princy[1], M. Vasuki[1], A. S. Vigneshwar[2]

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Abstract – Electrical energy consumption is increasing per annum. The generation of energy from renewable sources is gaining more popularity because the traditional methods of power generation aren't environmentally friendly and therefore the source of fossil fuel are depleting at an alarming rate. Energy generation using photovoltaic panel could be a good energy source because of its simplicity in installation and operation. It's evident that for obtaining the utmost output from the panels, ample amount of sunlight should fall on the surface of the panels. For this reason, the solar panels in homes and are placed in an open area on the roof. But this makes them liable to dust particles in air. These dust particles are carried by the wind and gets settled on the surface of the panels, obstructing the day light falling on the PV cells. Hence, the dust accumulation and dirt on the panel surface, the efficiency of the panel degrades to a comprehensible number. The output power reduces the output by 50% if the module isn't cleaned for a month. This amounts to a major loss within the output of the panels which affects the load connected to the PV system. So to order to clean the dust accumulation on the panel, an automatic cleaning system has been designed, which senses the dust on the panel and also cleans the module. To handle this issue: a completely automated, cost worthy and efficient system must to be invented. This paper presents the design and fabrication process of a prototype ready to clean the panel surface.

Keywords: Electrical Energy, Renewable Source, Photovoltaic Panel, Cleaning System, and Prototype.

AVCE_IJSRST_219: TWITTER VISUALIZATION AND SENTIMENT ANALYSIS USING DEEP LEARNING Patel Manan, Utsav Patel

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Abstract **-** Sentiment analysis on social media like Twitter has become a really importantand challenging task. Due to the characteristics of such data tweet length,spelling errors, abbreviations, and special characters the sentiment analysistask in such an environment requires a non-traditional approach. Moreover,social media sentiment analysis is a fundamental problem with many interesting applications. Most current social media sentiment classification methodsjudge the sentiment polarity primarily consistent with textual content and neglectother information on these platforms. In this paper, we propose a neural network model that also incorporates user behavioural information within a givendocument (tweet). We utilize the Convolutional Neural Network in our project. The system is evaluated on two datasets provided bythe SemEval-2016 Workshop. The proposed model outperforms current baseline models (including Naive Bayes and Support Vector Machines), which showsthat going beyond the content of a document (tweet) is useful in sentimentclassification, because it provides the classifier with a deep understanding of the task.

Keywords: Twitter, Sentiment Analysis, CNN, LSTM, RNN.

AVCE_IJSRST_224: A NOVEL FEATURE EXTRACTION METHOD FOR THE DETECTION OF CMBs

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Abstract **-** CMBs are deposits found in the brains of elderly people and stroke victims. This can lead to dementia as well as a variety of other issues with everyday activities like remembering, driving, and so on. In this paper, an effective feature extraction technique to detect cerebral microbleeds (CMB) has been proposed. In the feature extraction stage, weber local descriptor is applied which extracts two components. In these components Gray-level Co-occurance Matrix (GLCM) and Histogram of Oriented Gradient (HOG) are applied. Thus, two sets of features are extracted. In the classification stage, Artificial Neural Network is used to identify the CMB and non- CMBs areas. This method gives the sensitivity of 83.3%, specificity of 76.9% and an accuracy of 80%. The result of this technique is free from human errors**.**

AVCE_IJSRST_227: HARDWARE EFFICIENT LED FOR IOT APPLICATIONS USING B-RAM

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Abstract **-** This paper analyses to implement a hardware efficient light weight encryption algorithm based on Light Encryption Device (LED). The hardware efficiency of a LED is mainly determined by the implementation of the Substitute Cell and the Mix Columns operation. In order to increase the speed, these two round operations are combined into a single step called Transformation Box (T-Box). To implement the designed LED algorithm, we use an iterative architecture so that the hardware elements can be reused for every round operation. Further Block RAMs (BRAMs) are utilized for reducing area utilization. We use 64 bit plain text and 128 bit key size to get 64 bit cipher text which is targeted to Spartan 3 FPGA.

Index terms: lightweight encryption algorithm, increase the speed, Block RAMs (BRAMs), reducing area utilization, Spartan 3 FPGA.

AVCE_IJSRST_226: STOCK MARKET PREDICTION USING MACHINE LEARNING

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National Engineering College

Abstract - Predicting the stock market has been an area of interest not only for traders but also for the computer engineers. Predictions can be performed by mainly two means, one by using previous data available against the stock and the other by analyzing the social media information. In Stock Market Prediction, the aim is to predict the future value of the financial stocks of a company. The recent trend in stock market prediction technologies is the use of machine learning which makes predictions based on the values of current stock market indices by training on their previous values. Machine learning itself employs different models to make prediction easier and authentic. The paper focuses on the use of Regression and LSTM based Machine learning to predict stock values. Factors considered are open, c lose, low, high and volume. Prediction plays a very important role in stock market business which is very complicated and challenging process. Employing traditional methods like fundamental and technical analysis may not ensure the reliability of the prediction. This paper use to evaluate and compare LSTM deep learning architectures for short- and long-term prediction of financial time series. The evaluations are conducted using a publicly available dataset for stock market closing prices. This paper proposes to use machine learning algorithm to predict the future stock price for exchange by using open source libraries and preexisting algorithms to help make this unpredictable format of business a little more predictable. Based on temporal characteristics of stock and LSTM neural network algorithm, this paper uses the LSTM recurrent neural networks to filter, extract feature value and analyze the stock data, and set up the prediction model of the corresponding stock transaction.

Keywords: Stock transaction prediction, LSTM, Machine Learning, Linear Regression, Data Analysis, Supervised Machine Learning.

ICAMCCT_208: DETERMINATION OF HEART RATE AND CLASSIFICATION OF CARDIAC ABNORMALITIES USING PPG SIGNALS

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Abstract **-** The heart rate is a non-stationary signal, and its variation can contain indicators of current disease. The indicators can be present at all times or can occur at random, during certain intervals of the day. In this project, a method to efficiently extract HR information from a wearable PPG system is proposed. It uses an adaptive neural network and on-line post-processing. Inaddition for abnormality classification, five features and SVM is used.

AVCE_IJSRST_228: IOT BASED BREATH MONITORING SYSTEM USING FOIL SENSOR

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Abstract - Health is the prime significance in our routine life. The Internet of Things has given a much simpler answer for remote continuous wellbeing check of patients from the clinic, just as at home. The other important thing in our project is the plan of sending the warning via Email and SMS alert, if any of the health parameters crosses the limit esteem. Traditional breath monitoring methods rely on wearable devices which are intrusive and uncomfortable. Here, We have used a flexible acoustic sensor that has been designed to detect breath level while attached to the chest of a human. The sensor has a parallel plate capacitive structure using air as the dielectric material. Secondly, the design itself acts as a low pass filter to reduce the effect of background noise which mostly lies in >1000Hz frequency range. The resulting analog interface is minimal and thus, consumes less power and occupies less space. The sensor is made up of low-cost sustainable materials (aluminum foil) which greatly reduces the cost and complexity of manufacturing processes. The sensor is connected to a smartphone via Wi-Fi, enabling signal processing and further integration into digital medical electronic systems based on the Internet of Things (IoT). This system is capable of sending current location to the doctor and delivering oxygen to the user in case of any emergency. The sensor which we used also measures and displays the temperature and humidity level.

Keywords: breathing; wireless; foil; low-cost; healthcare; flexible.

AVCE_IJSRST_229: LOW POWER DESIGN OF MIPS RISC PROCESSOR

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Abstract - The aim of the paper is to design a reversible control unit for 32 bit RISC processor using VHDL code. RISC or Reduced Instruction Set Computer is a design philosophy that has become a mainstream in scientific and engineering applications. Increasing performance and gate capacity of recent FPGA devices permits complex logic systems to be implemented on a single programmable device. Low power design of MIPS processor involves the use of reversible logic based design. The circuit of control unit is synthesized using Xilinx ISE. The parameters such as power and delay are estimated. The work is proceeded with the reversible logic based implementation.

Key words: MIPS, reversible logic, VHDL, control unit, datapath unit

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AVCE_IJSRST_230: FIRE ALERT INTIMATION SYSTEM BASED ON SENSOR LEARNING

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Abstract **-** Fire accident as an unexpected and unwanted event that brings harm to social wealth and human life needs to be put a stop toed at all cost. In order to put a stop to losses accrued from fire accidents, various alarm systems have been developed such as smoke detectors, temperature sensor based systems etc. With the advancement of technology more automated fire tools are now available among which is this design. The availcapacity of GLOBAL SYSTEM FOR MOBILE APPLICATION technology is now include into the fire alarm system in order to combat and put a stop to the menace that could be caused by fire accident. The device will be able to monitor the temperature of the environment and send SHORT MESSAGE SERVICE aware to an inbuilt GLOBAL SYSTEM FOR MOBILE APPLICATION number when required, and make noisy sound to aware occupants on pending danger.

Keywords: Node-MCU(ESP8266),Smoke sensor,Flame sensor,Temperature sensor and Humidity sensor,GSM

AVCE_IJSRST_232: ANDROID MALWARE DETECTION Hamsareka S[1], Krishnamoorthy S[2], Prasanth T[2], Purusothaman R[2], Santhosh kumar A[2]

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Abstract **-** Malicious applications pose a threat to the security of the Android platform. The growing amount and diversity of these applications render conventional defenses largely ineffective and thus Android smartphones often remain un-protected from novel malware. In this paper, we propose DREBIN, a lightweight method for detection of Android malware that enables identifying malicious applications directly on the smartphone. As the limited resources impede monitoring applications at run-time, DREBIN performs static analysis abroad, gathering as many features of an application as possible. These features are embedded in a joint vector space, such that typical patterns indicative for malware can be automatically identified and used for explaining the decisions of our method. In an evaluation with 123,453 applications and 5,560 malware samples DREBIN outperforms several related approaches and detects 94% of the malware with few false alarms, where the explanations provided for each detection reveal relevant properties of the detected malware. On five popular smartphones, the method requires 10 seconds for an analysis on average, rendering it suitable for checking downloaded applications directly on the device.

Keywords: Android,Malware,Risk Ranker,mobile security,permissions

AVCE_IJSRST_231: USING DEEP LEARNING TECHNIQUE TO PREDICT THE WEATHER FORECASTING

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Abstract - Weather Forecasting is the task of determining future state of the atmosphere. Accurate weather forecasting is very important because agricultural and industrial sector largely depend on it. Weather forecasting has become an important field of research in the last few decades. In most of the cases the researcher had attempted to establish a linear relationship between the input weather data and the corresponding target data. The Neural Networks package supports different types of training or learning algorithms. The purpose of this paper is to forecast the weather using machine learning techniques. In any machine learning technique, the most important thing for any model is data. With proper and clean data we can use many models to accurately predict the weather. In this paper, the application of neural networks to study the design of neural network technique for Kanyakumary District,Tamil Nadu, India. A total of ten years of data collected for training the net work. The network is trained using the Back propagation Algorithm, Radial Basis Function, Regression Neural Network, Optical Neural Network, Fuzzy ARTMAP and Deep learningNeural Network and Deep learning network. The deep learning network can give the best overall results in terms of accuracy and training time. It is better correlated compared to the BPN,RBFN,GRNN,ONN and Fuzzy ARTMAP networks. The proposed deep learning neural network can also overcome several limitations such as a highly non-linear weight update and the slow convergence rate.

Keywords: Artificial Neural Networks, Forecasting, Weather, Back Propagation, Radial Basis Function, Regression Neural Network, Optical Neural Network, Fuzzy ARTMAP, Deep learning Neural Network,

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AVCE_IJSRST_235: DEEP LEARNING TECHNIQUE TO DETECT OBJECT FOR VISUALLY IMPAIRED PEOPLE USING YOLO V3 FRAMEWORK MECHANISM

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Abstract -. In this project, we recommended a technique called the multi-view object tracking (MVOT) system to resolve the multiple cameras monitor an area from different angles. Videos recorded by the cameras contain complementary information and fusing the knowledge embedded in the videos facilitates the development of a robust and accurate system. Those task of cameras that have different settings, we propose a correspondence Yolo V3 algorithm that maps each segmented group of objects in one view to the corresponding group in another view. We call these corresponding groups matched blob clusters, each of which enables knowledge to be shared between cameras. It follows that we present a two-pass regression framework for multi-view objects.

Keywords: Object Detection, convolutional Neural Network, Object tracking, moving object detection, You only Look Once.

AVCE_IJSRST_233: WBC SEGMENTATION IN BLOOD IMAGES FOR MEDICAL APPLICATION

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Abstract - In medical diagnosis blood cell count plays very important role. Increment or decrement in the count of blood cell causes many diseases to occur in the human body. There are different techniques of blood cell counting which involves conventional as well as automatic techniques. The conventional method of manual counting under microscope is time consuming and yields inaccurate results. Although there are hardware solutions such as the Automated Hematology Counter, developing countries are not capable of organizing such unaffordable expensive machines in every hospital laboratory in the country. As a solution to this problem, to provide a software-based cost effective and an efficient alternative in recognizing and analyzing blood cells, this paper presents the preliminary study of automatic blood cell counting based on digital image processing. The number of blood cell count that is WBC count is then may be used to diagnose the patient as well as detection of abnormalities like leukemia. For this purpose, few preprocessing and post-processing techniques have been implemented on blood cells image in order to provide a much clearer and cleaner image. ***Index Terms:*** Blood cell count, image processing technique, WBC, differential count, K-means clustering; segmentation; thresholding; watershed algorithm; white blood cells.

AVCE_IJSRST_234: AIR AND WATER QUALITY MONITORING SYSTEM

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Abstract - Pollution has reached the environment's carrying capacity in recent years. Despite the implementation of several pollution-control programmes, there has been little improvement. Despite our government's best efforts to protect natural resources, it is sometimes exploited by inevitable waste discharges. Textiles, leather, sugar, and paper, for example, are water-intensive and polluting industries that have changed in recent decades by extracting large quantities of water and discharging effluents without adequate treatment. Improved pollution-linked databases and ecosystem-balancing technologies are required to resolve this. In the literature, there are a number of technologies for tracking pollution, but they all rely on conventional databases. With the implementation of IoT-based technologies in the industrial waste and air management sectors for Online Monitoring solutions of polluting parameter values such as temperature, humidity, and carbon monoxide gas concentration and updates into the database, polluting parameter values such as temperature, humidity, and carbon monoxide gas concentration and updates into the database. The ESP 32 system is designed for monitoring and managing IoT devices in a website and hosted environment.

AVCE_IJSRST_236: FPGA IMPLEMENTATION OF 4:2 APPROXIMATE COMPRESSOR USING WATERMARKING APPLICATIONS Abarna S, Joy Roseline Ebenezer D, Krishna Harini R

K.Ramakrishnan College of Technology

Abstract - Compact design is an extremely important criterion in the recent development error tolerant applications based on the high performance processor core. The performance of the processor core depends upon the data pro cessing sub-system architectures. Area, delay and power reduction in the cost of Compact accuracy have become the critical requirement of high quantity data computing Very Large Scale Integration (VLSI) architectures. In this paper, we proposed Compact Energy efficient Error Tolerant Adders (CEETAs) which have efficient design metrics for data intensive applications. To achieve area and energy efficiency, Simplified gate level Approximate Full Adders (SAFAs) are proposed in the inaccurate part of the CEETA and CEETA1 designs. The simulation result shows that the proposed SAFAs based CEETA1 adder exhibits low power consumption, less Power-Delay Product (PDP), less Area-Delay Product (ADP) and it offers a savings of 51.63%, 43.87%, 48.57%, 36.52%, 36.84%, 15.72%, 18.18% area than the conventional CSLA, SAET-CSLA, ETCSLA, HSETA, HSSSA, HPETA-I, HPETA-II, respectively. Further, the Simplified Approximate Full Adders (SAFA1E and SAFA2E), 4-2 Approximate Compressor (AC) modules based High Performance Error Tolerant Multipliers (HPETMs) are proposed for error tolerant applications. To achieve energy and area efficiency with high speed for the high quantity digital data computation, the propagation delay and the gate count reduction on the carry generation path are proposed in the SAFA and AC designs. The proposed HPETM1 has a significant amount of power and area savings and it exhibits 24.95%, 29.87%, 30.41%, 31.79%, 31.68%, 33.87%, and 35.58% lesser delay than the existing AM1, AM2, SSM, ACM1, ACM2, ACM3 and CDM respectively.

AVCE_IJSRST_237: A CONTROL METHOD FOR VOLTAGE OSCILLATION SUPPRESSION USING NEUTRAL-POINT-CLAMPEDINVERTER

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Abstract -The major problem in the electrical power quality is the harmonic content. There are several methods indicating the quantity of harmonic content and the most widely used measure is the Total Harmonic Distortion. If total capacitance of DC-link capacitor is smaller, the amplitude of oscillation is larger. In this paper, three-level neutral-point-clamped inverter system is analyzed by the small-signal modeling and the controlmethod reducing the oscillation of the neutral-point voltage isproposed. By the proposed method, the amplitude of the neutralpointvoltage oscillation is reduced. A nine level cascaded multilevel inverter power circuit is simulated in MATLAB simulink with sinusoidal PWM technique. The results are presented and analyzed.

Key words: NPC, Oscillation Suppression, Modulation Index,THD,Discontinuous pulse width modulation (DPWM), Low frequency oscillation, Neutral-point voltage balancing

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AVCE_IJSRST_238: OPTIMAL INTERLEAVING ANGLE DETERMINATION IN MULTI PARALLELED CONVERTERS CONSIDERING THE DC CURRENT RIPPLE AND GRID CURRENT THD

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Abstract - Among different options available for wind energy system, this research is focused on direct driven Synchronous generator based variable speed wind turbines that are connected to power grid via modular converter units. Compared to single full size power converter, modular design has higher reliability/redundancy, better harmonic performance, lower developmental cost and higher efficiency. Better harmonic performance of modular structure is possible through interleaving which effectively reduces ripple in the output current, enabling use of smaller sized filter components. Focus of this research is to design a controller that can perform automatic interleaving of modular three-phase converters used in above cited wind energy system. Developed control algorithm will have critical decisions carried out by local controllers. With minimum communication overhead the controller will ensure interleaved operation of parallel modules under all conditions.

Keywords: Interleaving, grid current, THD, converters.

AVCE_IJSRST_239: STUDY AND GROUPING OF SUBURBAN CONSUMERS ENERGY BEHAVIORAL DEMAND USING SMART METER INFORMATION

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Abstract - The main goal of this research is to discover the structure of home appliances usage patterns, hence providing more intelligence in smart metering systems by taking into account the usage of selected home appliances and the time of their usage. In particular, we present and apply a set of unsupervised machine learning techniques to reveal specificusage patterns observed at an individual household. The work delivers the solutions applicable in smart met ring systems that might: (1) contribute to higher energy awareness; (2) support accurate usage forecasting; and (3) provide the input for demand response systems in homes with timely energy saving recommendations for users. The results provided in this paper show that determining household characteristics from smart meter data is feasible and allows for quickly grasping general trends in data.

Keywords: data mining; users' behaviors; smart metering; smart home; energy usage patterns.

AVCE_IJSRST_240: TRANSIENT STABILITY MINIMIZATION FOR UPFC CONTROLLER USING ANN

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***Abstract* -** Renewable energy will become an important part of power generation. The problem of voltage stability has become a major disquiet in power system control operation. Seashore power generation combined with offshore wind turbine generators will become a new method for large electric energy production in the future. Here the offshore wind farm and seashore wave farm are integrated to produce large electricity and is fed to an onshore power grid through an UPFC. The UPFC is designed using ANN controller to simultaneously achieve the power fluctuation mitigation and dynamic stability improvement. Soft computing method of ANN is used to predict the power flow problems and voltage stability. The ANN controller is trained by using Hybrid Learning Algorithm. The simulation results shows that the proposed system can effectively achieve the stability improvement.

***Keywords*-** Offshore wind farm (OWF), Seashore wave farm (SWF), Unified power flow controller (UPFC)

AVCE_IJSRST_241: ENERGY & DEMAND FORECASTING CONTROL USING PREPAID ENERGY METERING TECHNIQUE

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***Abstract* -** The system controls the current level electrical loads to maintain the total electrical power demand during a demand interval within certain predetermined limits. The demand forecaster makes periodic projections of the metered demand to the end of the demand interval based upon the current rate of energy consumption (instantaneous demand) and the accumulated energy consumption during the demand interval. If the projected value indicates that a demand peak will occur, the system signal interrupting the load to prevent the occurrence of the peak. Conversely, if the system detects a projected low value of the demand, a "restore" condition exists whereby the load is turned on to take advantage of the available electrical capacity. Object of the work is to provide a power distribution control system which can provide the solution of 2 hours power cut in tamilnadu.

AVCE_IJSRST_242: POWER QUALITY IMPROVEMENT IN CONVERTERS USING ANN

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Abstract – Pulse width modulation (PWM) converters are frequently used due to unity power factor operation with reduced total harmonic distortion (THD) at ac mains and also provide constant-regulated dc output voltage even under fluctuations of ac voltage and dc load. This paper contains the harmonics analysis of sinusoidal PWM (SPWM) technique and space vector PWM (SVPWM) technique for three-phase AC to DC converters using MATLAB/SIMULINK software. In this paper simulation models for both techniques are simulated with closed loop at rated load condition and harmonics analysis has been done using FFT tool of simulink in MATLAB.

Keywords: Flexible AC Transmission System, Converter, ANN,SPWM,THD,SVPWM,VSR.

AVCE_IJSRST_244: PARALLEL OPERATION OF MODULAR SINGLE-PHASE TRANSFORMERLESS GRID-TIED PV INVERTERS WITH COMMON DC BUS AND AC BUS

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Abstract - In order to eliminate the common-mode (CM) leakage current in the transformer less photovoltaic (PV) systems, the concept of the virtual dc bus is proposed in this paper. By connecting the grid neutral line directly to the negative pole of the dc bus, the stray capacitance between the PV panels and the ground is bypassed. As a result, the CM ground leakage current can be suppressed completely.Meanwhile, the virtual dc bus is created to provide the negative voltage level for the negative ac grid current generation. Consequently, the required dc bus voltage is still the same as that of the full-bridge inverter. Based on this concept, a novel transformer less inverter topology is derived, in which the virtual dc bus is realized with the switched capacitor technology. It consists of only five power switches, two capacitors, and a single filter inductor. Therefore, the power electronics cost can be curtailed. This advanced topology can be modulated with the uni polar sinusoidal pulse width modulation (SPWM) and the double frequency SPWM to reduce the output current ripple. As a result, a smaller filter inductor can be used to reduce the size and magnetic losses.

Keywords: PV System,Transformerless Inverter,SPWM,Virtual DC bus concept,Operation Modes of the circuit, Hardware Theory.

AVCE_IJSRST_243: SINGLE PHASETRANSFORMERLESS PHOTOVOLTAIC INVERTERS

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Abstract **-** Transormerless inverters are attractive solution for the grid connected photovoltaic (PV) systems.Unfortunately, it has issues on galvanic isolation between PV systems to the grid. When the galvanicisolation disappears from the PV inverter, leakage currents will flow in a resonant circuit formed by theground capacitance, the converter, the ac filter and the grid. In order to avoid the leakage currents, varioustransformerless inverters have been proposed using different topologies to generate constant commonmode voltage. In this paper, various recently-proposed transformerless PV inverters are investigated. Theirperformances are compared and analyzed.

Keywords: PVSystem,TransformerlessInverter,SPWM,Virtual DC bus concept,Operation Modes of the circuit, Hardware Theory.

AVCE_IJSRST_245: ACCIDENT ANALYSIS AND PREVENTION USING ADVANCED DRIVERS ASSISTANCE SYSTEMS

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Abstract **-** This paper proposes a new approach to detect as well as prevent car accident using inbuilt sensors. A recent survey shows that the rate of vehicle accidents is widely increasing, due to rash driving like over speeding, not following traffic rules etc. The application can make use of a sensor to sense alcohol using alcohol detector (mq3) connected to arduino. Vehicle accidents are one of the leading cause for death rate.This system deals with the optimum solution to these problems.The ultrasonic sensor is used to detect the objects in front of car which avoids dangerous accidents. Aurdino based vehicle anti-theft system using GPS,GSM and accelerometer.The GPS tracks the position of the stolen vehicle and gives the information via GSM.

Keywords **-** MQ3 sensor, ultrasonic sensor , GPS, GSM, Aurdino.

AVCE_IJSRST_246: IMPLEMENTATION OF GROUND STRUCTURE FOR MICROSTRIP FILTENNA DESIGN

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Abstract - In this project, an antenna on substrate is presented for the filtenna.This is a wearable filtenna, which was formed on fabric substrate to reduce surface-wave losses. The proposed antenna design consists of a patch and a defected ground. To energize the wearable filtenna, a microstrip line feed technique is used in the design. Good impedance matching, reasonable gain and directivity will be achieved. The SAR value was calculated to observe the radiation effect and the SAR will be reduced less than 2 W/kg of 10gm tissue.The parametric study is performed for the validation of the proper functioning of the antenna. The design is simulated using EM simulation tool called CST software. ***Keywords:*** Microstrip filtenna, low effect.

ICAMCCT_206: IOT FOR MAINTENANCE OF HYDROPONIC FARMS Aswini Shiyana.M, Nithesh Nethaji.D, Pushpa Latha.T , Siva Prakash.V, Dr.G.Gaswin Kastro.

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Abstract - Hydroponics refers to growing plants and crops without soil. In traditional agriculture the soil provides the plants mechanical support and supplies required nutrients. In such traditional methods the plants are prone to soil-borne diseases and pests which destroy the plants and reduce the yields. In hydroponics the plants are grown in a substrate medium and the nutrients required for the plant growth is supplied by means of nutrient solutions. Deep water culture, Nutrient film technique and Media bed are the three major techniques to grow hydroponic plants. In nutrient film technique the plants are grown on wide pipes and the nutrient solution is circulated through pipes to the roots. When nutrient solution flows through these pipes the plants that earlier gets the solution sucks enough nutrients and the plants at the edge of the pipe may not get enough nutrients. We propose a novel method to see to that all the plants gets nutrient solution equally. We also automate this process of supplying nutrient solution to plants by means of moisture sensors, water sensors and solenoid valves. The moisture sensor senses the moisture in the roots and alerts a central microcontroller unit. The microcontroller unit also monitor the level of water in the pipes. After the plants have received nutrient solution the water is drained by the system automatically by means of solenoid valves. It is also important to maintain pH value of the water between 6 and 7. A separate sensor unit senses the pH of the water in the tank and alerts the microcontroller. The microcontroller is attached with a ublox WiFi module through which it is connected to the cloud. The user will be able to control the watering of hydroponic plants and monitor the pH of water remotely with this proposed system.

Index Terms: Hydroponics, Soil less culture, WiFi, pH sensor, Moisture sensor, Water sensor, Nutrient Film Technique, IoT, Internet of Things.

ICAMCCT_207: DESIGN OF BAND-PASS FILTERS USING MEANDERED STUB LOADED RESONATORS

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Abstract - Filters are vital sections in any communication systems. They ensure only needed frequency signals enter the system and unwanted frequencies are rejected out. In microwave systems special filters are required as lumped capacitors and inductors are not possible often at higher frequencies. Microstrip filters are cost effective and easy to prototype and manufacture. We have good simulation tools like ANSYS HFSS to simulate such circuits. Many such filters have been designed in the literature using microstrip circuits. Microstrip filter realization using microwave resonators have become common in recent times. Present communication systems tend to provide multiband services and therefore demand the system to operate with more than one band. Therefore multiband filters are required to provide multiservice communications that operate with different center frequencies. Complex designs are found in the literature with less number of passbands. We propose to use a simple structure that is a half wavelength resonator loaded with a stub to realize a microstrip filter that operates with multiple pass bands. The half wavelength resonator and the stub attached are meandered to introduce multiple pass bands. Meandering also helped in achieving sufficient return loss. The microstrip circuit is realized using FR-4 substrate material. The simulated and measured curves are in good agreement with excellent insertion loss performance.

Index Terms: Microstrip, Microwave, Filter, Resonator, Stub Load, Multiband Filter, Return Loss, Insertion Loss, FR-4.

ICAMCCT_210: MICROSTRUCTURAL AND XRD ANALYSIS ON MG/AL OF DIFFUSION BONDING WITH AL POWDER AS AN INTERLAYER R.J. Golden

Renjith Nimal[1*], M. Shyam Prasad [2], K. Surya Prakash[2], A. Logesh[2], L. Brightson[2]

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Abstract - In the respective work, two various materials like aluminium and magnesium which has entirely different properties taken into account. These metals are bonded together by the process of diffusion bonding. The bonding portion is made up of intermetallic material (i.e., Aluminum powder). The complete process is not an intricate one and also the objective is to provide diffusion bonding at a low cost and provide easy accessibility. These base materials undergo surface buffing and surface finish to ensure that there are no foreign materials. These materials are kept inside a die and placed inside the diffusion bonding machine and the materials start to bond at a varying temperature or stress. Scanning electron microscope (SEM) and X-ray diffraction (XRD) test are employed on the bonded portion to view that the material is free from flaws or to check the formation of any new materials.

Keywords: Dissimilar metals, Intermetallic compounds, Bonding strength, transformations, Interlayer.

ICAMCCT_211: IMPACT OF LATTICE ADJUSTMENTS BY NANO MUD ON THE MECHANICAL ATTRIBUTES OF SAND WICH PANELS

P.V.Prasanth, M.EdwinSahaya Raj, R.S.Jayaram, M.JohnIruthaya Raj, N.Kanthavelkumaran

Abstract **-** Expanding request in lightweight constructions roused a solid pattern towards improvement of sandwich boards. Idea of sandwich development is meager, solid and solid confronting sheet is clung to a thick, lightweight center. Normally face sheets are developed from high strength materials like carbon fiber, glass fiber supported polymer composites or aluminum sheet metal. Interfacial holding vital for glassfibre and aluminium-honeycomb sandwich composites for their underlying exhibition. Possibility and adequacy of Nano interfacial hardening at the interface between the glass-fiber face sheets and aluminum-honeycomb center will inspect. Present day advances request materials with strange and phenomenal mixes of properties that can't be given by traditional metal combinations, clay and polymeric materials needed for aviation, submerged and transportation applications, Structural materials having low thickness, firmness, high strength, scraped spot obstruction, away opposition and consumption obstruction.

ICAMCCT_212: PARALLEL COUPLED LINE MULTIBAND MICROSTRIP BANDPASS FILTER DESIGN

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Abstract - Bandpass filters play a major role in wireless communication systems by selecting the wanted frequencies and rejecting the unwanted spectrum. They are unavoidable in every wireless system like satellite systems, Radar systems, Mobile communication systems etc. At microwave frequencies design of filters pose several challenges like size of filter, cost of prototyping and manufacturing, return loss and insertion loss performance and quality factor performance. Nowadays communication systems demand multiband operation and therefore an additional challenge to the filter designer is to incorporate multiple passbands in the frequency response of the filter in addition to the above mentioned challenges. We propose parallel coupled microstrip lines to design a multiband filter with less cost. Parallel coupled lines are used because they are much easier to realize compared to other complex filter structures. This directly impacts the cost of the circuit also. Since parallel coupled lines are realizable using microstrips it is easy to simulate and prototype. A dual band filter is designed using parallel coupled lines with center frequencies at 2.4 GHz and 5GHz. The filter is designed on an FR-4 substrate. The dual bands were obtained by introducing meandered sections and spur sections along with the coupled lines. The insertion loss for both the passbands were below 1 dB and the return loss is above 20 dB.

Index Terms: Coupled lines, Microstrip, Microwave, Filter, Low cost, Bandpass filter, Multiband.

ICAMCCT_214: FACTORS AFFECTING THE SKID RESISTANCE AND TEXTURE DEPTH ON FLEXIBLE PAVEMENT FOR URBAN ROADS

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Abstract - Due to increase in vehicle growth in india, there is a huge rise in the road accident, there are so many factors responsible for the road accident such as geometrical feature, human factors, vehicle factors and road surface factors, among which the texture depth and the corresponding value of skid resistance in road surface also contribute to the occurrence of road accidents. Hence in this study it's proposed to develop the prediction model for the texture depth and skid resistance and factors influencing the same is identified. It is found out that, the models developed for the texture depth and skid value are satisfactory and the factors influencing the same are bitumen content, stone polishing value, abrasion value of aggregate used and Traffic condition.

Key Words: Skid Value, Texture depth, Traffic Condition, Regression Modeling.

ICAMCCT_215: A MULTI-VARIANT APPROACH TO OPTIMIZE PROCESS PARAMETERS FOR BIODIESEL EXTRACTION FROM RUBBER SEED OIL

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Ponjesly college of Engineering

Abstract - Biodiesel is biodegradable, non-toxic and has the capacity for sustainable development, energy conservation and environmental preservation. Apart from yielding high value latex, the rubber plant supply large amount of rubber seed, which are currently underutilized. Hence, extracting biodiesel from rubber seed is a viable option which demands focus for research to consolidate and optimize the biodiesel extraction process parameters. Design of experiments (DOE) is a powerful statistical approach which is used for optimizing the process parameters through two stage esterification process, relating acid and alkaline as catalyst. Reducing the acid value is the primary objective for process optimization in acid esterification process, whereas, maximizing the monoester yield is the objective for the alkaline-esterification process. Different saturated and unsaturated monoesters present in the biodiesel were quantified using gas chromatograph in order to determine the yield percentage, which ensures the quality of the biodiesel. In further, the fuel has to be tested for properties such as viscosity, calorific value and carbon residue using standard test procedures and found to be analogous with diesel, which makes it possible to use this alternate fuel in the existing engine without any modification.

Keywords: rubber seed oil biodiesel, design of experiments, esterification, gas chromatograph.

ICAMCCT_216: SOLAR POWER WATER WASTE COLLECTOR

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Abstract – As we know the population of India day by day and due to this the population also gets increase. The garbage with are produced by the peoples Are the main cause of pollution. The garbage are dumped or just thrown in the lake. River of other water resources. The garbage which are thrown in the water such as lakes. Rivers and other water resources due to which the water get polluted because of which we cannot use that water for our daily use and the water will also get wasted. In many of cities of India this is the major problem. To overcome this water pollution our project "solar power water Surface cleaning boat" is very helpful by collecting the garbage which are floating on the surface of water. This project is working automatically and saves the man power. This project is also very efficient and work on the solar energy no external power supply is required. A battery of 12V is used to store the energy which collected by the solar plate. Then this battery will use this stored energy to operate complete boat.

ICAMCCT_217: ENHANCED VIRTUAL INERTIA CONTROLBASED FREQUENCY REGULATION FORMICROGRID Fathima Sheerin Ahamed

PG student, Government College of engineering, Kannur **Abstact -** In traditional power systems, inertia and damping are supplied by the rotor of synchronous generators. They offer an important role in regulating frequency stability during the contingency. Recently the synchronous generators in microgrids have been replaced by the inverter/converter-basedRenewable energy sources (RESs). Hence, the response of system inertia and system damping are significantly decreased. This leads to rapid frequency deviation, larger frequency drop, system instability, rapid cascading failure or power blackout. One of the solution to such scenarios is to add virtual inertia in the system. A derivative technique-based virtual inertia control is reported for improving system inertia and system damping thereby enhancing frequency stability during the severe disturbances and contingencies. The enhanced control technique is designed to operate independently of other control units, such as primary and secondary control. Thus, the energy contained in ESS is fully used to improve the system frequency stability in terms of steady-state and transient performance. The virtual inertia control and enhanced virtual inertia control methods are compared in a microgrid with RESs. The enhanced derivative technique-based virtual inertia control strategy will improve both system inertia and damping to meet frequency regulation requirements. Compared with the conventional virtual inertia control, the strategy gives a better frequency stability and performance. It is expected to integrate more RESs. Thus the lack of system inertia and damping issue could be solved. This will prevent instability and power blackout.So the virtual inertia control could be more optimally utilized in the power system.

ICAMCCT_218: THERMAL AND EXPERIMENTAL ANALYSIS OF ADVANCED ETHYLENE GLYCOL COOLANT BASED HEAT EXCHANGER FOR MODERN VAPOUR COMPRESSION REFRIGERATION SYSTEM

S. Anand

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Abstract - The aim of the project is to develop the vapour compression refrigeration system using ethylene glycol based heat exchanger. The vapour compression refrigeration system is a system which rejects heat using a heat exchanger system. The efficiency of the vapour compression system is proportional to the performance of the heat exchanger. Normally air-cooled heat exchanger is used for the refrigeration system, in air cooled heat exchanger the heat dissipation rate is very low so the cop of the vapour compression refrigeration system gets reduced. In our modern system ethylene glycol based heat exchanger I used because of this system the cooling rate will be more and cop gets increased. In our project the ethylene glycol based vapour compression refrigeration system can be analysed thermally and an experimental set also be developed. By means of this system the performance of the system will be increased as well as the power consumption will also be reduced. However, air conditioning is also used to cool/dehumidify rooms filled with heat-producing electronic devices.

ICAMCCT_220: CFD AND EXPERIMENTAL ANALYSIS OF PETROL AND COMPRESED NATURAL FUELED IC ENGINE Sahaya Saju J

Department of Mechanical Engineering, Rohini College of Engineering, Kanyakumari.

Abstract - The aim of the project is the flow and experimental analysis of petrol and compressed natural gas fueled ic engine. The dependence on liquid fuels in road transport sector is deep routed and is increasing exponentially as the number of vehicles on road is shooting up. Besides dependence on liquid oil environmental pollution is another problem which modern society is facing today. The exhaust from liquid fuel is diminishing air quality day by day which is increasing human health problems like respiratory diseases. It is therefore necessary to switch over to alternate fuels like natural gas which is clean alternative fuel. Compressed Natural gas has clean burning properties and natural gas vehicles generate fewer exhaust and greenhouse gas emissions than their gasoline or diesel powered counterparts. compressed Natural gas costs about 15 to 40 % less than gasoline . Natural gas can be used on dedicated engine which exclusively operates on natural gas or dual fuel engine, with diesel. Dual fuel engines offer number of potential advantages like fuel flexibility, lower emissions, higher compression ratio, better efficiency and easy conversion of existing engines. This project describes the CNG and petrol fueled IC engine with computational fluid dynamic analysis and experimental analysis.

ICAMCCT_219: AN ADVANCED STRATEGY FOR ENHANCING TRANSIENT STABILITY OF HYBRID AC/DC POWER SYSTEMS

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Abstract - In the hybrid AC/DC power systems, the stability problems due to large disturbances extending from 0.1s to 10s, such as faults, switching on or off of large loads, large generator tripping, etc are prominent. Bulk unbalanced energy is instantaneously accumulated in the sending and receiving ends after a long disturbance. The generators of the sending end accelerate and the receiving end decelerates, resulting in rotor angle swinging between the sending and receiving ends, which, in turn affects the safe and stable operation of the power grid. To maintain the transient stability of such power systems, the safety and stability control measures reported [1] but not effective due to their discrete control measures and adverse effect of Load shedding on power supply reliability. Therefore, DC modulation can be used for improving transient stability due to fast-acting controllability, large power modulation capacity, and outstanding reactive power, and active power adjustment capability. This proposed method presents a multi-HVDC emergency coordinated modulating strategy to enhance the transient stability of hybrid AC/DC power systems. In this, the main factors that affect the unbalanced energy distribution during a fault are analysed, and the dominant generators are set online. Considering the influence on both generators in the sending and receiving ends, the assessment index is set, that evaluates the effects of DC power support. Based on this, a dynamic DC power support strategy is put forward based on the extended equal area criterion (EEAC) and the impulse theorem, and the DC support sequence table is promptly updated by the changing dominant generators. In other methods reported in the literature [1][2], non-fault HVDCs are based on pre-fault data information and keep the support sequence table constant but the DC power support abilities are changing with the operating conditions.In this seminar, a test AC/DC hybrid power system built with multi-DC lines is delineated. After the occurrences of the disturbance, the added DC power support reduces the mechanical power, accelerating the absorption of unbalanced energy, and enhancing the transient stability of the system. The simulation results of various case studies shown that the proposed method could follow the dominant generator dynamically and adjust the DC power support in modulation to enhance the transient stability effectively and quickly.

ICAMCCT_225: INVESTIGATION WITH ALUMINIUM – BERYLLIUM COMPOSITES FOR BOILER TUBE MATERIAL IN THERMAL POWER PLANT

Viknesh T
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Abstract - Electricity is the basic need in day to day life. In current scenario, the usage of electricity by industries has been drastically increased to satisfy the needs of people. To meet this, Thermal power plant plays a major role in producing power. Every thermal power plant is trying to increase their efficiency. The cast iron material is used in water flowing tubes in the boiler. If this material is changed the water will become steam quickly and so less amount of fuel is required and the efficiency may increase. An attempt has been made by altering the material of water flowing tubes with Aluminium- Beryllium composites which may result in increase in the efficiency of the thermal power plant.

ICAMCCT_221: THERMO-FLUID CHARACTERISTICS OF COMPRESSIBLE FLUID THROUGH SUPERSONIC CONVERGENT DIVERGENT NOZZLE USING CFD

Abraham T
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Abstract - A convergent-divergent (CD) nozzle is the key component in a rocket propulsion system. The relations of the processes inside a CD nozzle and chamber furnish the mathematical tools needed to calculate the performance and determine several of the key design parameters of propulsion systems. They are useful as a means of evaluating and comparing the performance of various rocket systems; they permit the prediction of the operating performance of any rocket unit that uses the thermodynamic expansion of a gas, and the determination of several necessary design parameters, such as nozzle size and generic shape, for any given performance requirement. This theory applies to chemical rocket propulsion systems (both liquid and solid propellant types), nuclear rockets, solar heated and resistance or arc heated electrical rocket systems, and to any propulsion system that uses the expansion of a gas as the propulsive mechanism for ejecting matter at high velocity. In this study the behaviour of a CD nozzle is analyzed to understand the influence of various input condition and geometrical parameters. The pressure and Mach number in the convergent, throat and divergent section is analysed using Computational Fluid Dynamics (CFD). The CFD study elucidates the use of computational methods to understand the flow and heat transfer behaviour of rocket propulsion system. This is a fruitful tool to improve the performance of CD nozzle. In this study, the CFD simulations are carried out using a finite volume method software package ANSYS Fluent.

ICAMCCT_223: MODIFICATION AND ANALYSIS OF HYDROGEN FUEL ENGINE

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Abstract - The aim of the project is to fabricate the HYDROGEN FUELED VEHICLE. A heat engine is one which transforms chemical energy of a fuel into thermal energy and convert it into mechanical work. Heat engines are classified in to two types: IC engines & EC engines. Hydrogen is an alternative fuel which can be used for all IC engines.Fossil fuels a major part of the world's energy demand. Higher demand of energy, depletion of fossil fuel and environmental impacts are the key motivational factors to explore alternative energy sources. In this project the electrolysis process is used with the principle of electronic ignition coil to produce high electric potential to split water into H2 and O2. Two stages of ionization and separation electrolysis process are used to split water into H2 and O2. High voltage is maintained in the electrolysis chamber between cathode and anode. End of the electrolysis process hydrogen and oxygen is separated. A gas mixture kit is used to mix hydrogen and LPG to allow the fuel mixture into the combustion chamber. Then the fuel is burned with the help of spark plug ignition. Emission test is taken to analyze carbon emission of the engine

Key words: hydrogen fuel, IC engine, electrolysis chamber, LPG

ICAMCCT_224: DESIGN, ANALYSIS AND COMPARISION OF GENERAL-PURPOSE NACA AIRFOIL STRUCTURES

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Abstract - Aerodynamic research has been a major driving factor in the aerospace industry and it is worthwhile to perceive the influence of aerodynamics in the present scenario. The prime objective of this project is to analyze the aerodynamics performance of different NACA airfoils. Initially, the 4-digit NACA airfoil series including NACA 2411, NACA0010, and NACA 0012 were assessed for its performance, later this study quantifies the performance of 5-digit NACA airfoil series such as NACA 22112, NACA 23012, and NACA 23015. These airfoil series were generated using analytical equations describing the curvature of the mean-geometric line of the airfoil section as well as the section's thickness distribution along the length of the airfoil. The design of these airfoils is carried out in the Solid works platform using the data acquired from the NACA agency website. The aerodynamic characteristics of selected airfoil geometries are investigated at low Reynolds numbers and angle of attack ranging from 0º to 90º using numerical simulations and the results are validated. All simulations are carried out in ANSYS 15.0 through fluid dynamic packages in it. The flow was obtained by solving the steady-state governing equations of continuity, momentum, and energy conservation using the k-epsilon turbulence model. Both lift and drag coefficients are investigated for different Reynolds numbers for each airfoil. The lift coefficient is linearly increased with the angle of attack until it reaches its optimal value and their aerodynamic performance was assessed. Similarly, the drag force acting on the airfoil was also varied with respect to the angle of attack, and the increment in the drag force was assessed. Finally, a numerical comparison of the CFD results is made to select the best airfoils depending on lift and drag force exhibited for the optimal angle of attack on different airfoils.

ICAMCCT_222: EXPERIMENTAL INVESTIGATION AND THERMAL ANALYSIS OF ALUMINIUM AND BORON CARBIDE Kabil Krishna R

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Abstract - The aim of the project is experimentally Investigate and thermal analysis of Aluminium and Boron Carbide composites. For the past two decades there is continuous development in material technology and the main contribution is to reduce the cost and meet the demands in areas such as aerospace, automobile, military and energy applications. Aluminium and its alloys offer substantial potential for industrial application because of special characteristics like lightness, excellent resistance to atmospheric corrosion but lack certain thermal properties. In order to overcome this thermal properties Boron carbide is reinforced. Three specimens are prepared with Aluminium reinforced with three different composition of Boron Carbide. Specimen preparation and testing are carried out as per ASTM standards. The various tests such as Tensile Test, Micro hardness Test, Thermal conductivity test, Thermo Mechanical Analysis, Differential temperature analysis are done on ANSYS WORKBENCH and experimentally.

ICAMCCT_226: PERFORMANCE ANALYSIS OF VARIOUS PHASE CHANGE MATERIALS WALLBOARDS FOR THERMAL ENERGY STORAGE IN BUILDINGS

Ajith A

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Abstract - Research interest into the application of phase change materials (PCM) as energy storage materials in buildings has gathered momentum over recent years. PCMs utilizing latent heat produced during phase change transformation processes do attain higher energy density with small temperature difference than other storage media using sensible heat. One potential concept being pursued for minimizing cooling and heating loads is the integrated PCM wallboard system. This system is based on randomly mixing PCMs into wallboards. This study evaluates the concept of laminated-PCMs as integral part of wallboard system in building fabric. This novel approach of integrating PCMs promotes rapid transfer of latent heat, sharp response to indoor temperature, and minimizes multidimensional mode of heat transfer. It also facilitates production and recycling methods of wallboards. The investigation into the thermal performance of the laminated wallboard system was done numerically and experimentally. Through series of heat transfer simulations and under different sets of properties and conditions, the surface temperature variations were obtained. The temperature variations were then used to calculate the heat flux and the total amount of heat transferred in and out of the wallboard. For the purpose of comparison, simulations will be carried out for randomly mixed PCMs during heat storage and discharge processes.

ICAMCCT_227: ENHANCING THE PERFORMANCE OF ALTERNATIVE REFRIGERATION SYSTEM USING PELTIER MODULE

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Abstract - The objective of this project work is to develop portable thermoelectric refrigeration system capable of maintaining vaccine temperatures between 8 00 and 13 °C. The main system consisted of thermoelectric module as cooling generator along with insulated cabin, battery and charging unit. Thermoelectric elements perform the same cooling function as Freon-based vapor compression or absorption refrigerators. To ensure the success of this project several criteria's are to be satisfied such as portability, size and cost of the system. The design of the preservation is based on the principles of thermoelectric module (i.e. Peltier effect) to create a hot side and a cold side. The cold side of the thermoelectric module is used for refrigeration purposes; provide cooling to the vaccine chamber. On the other hand, the heat from the hot side of the module is rejected to the surroundings with the help of heat sinks and fans. After gathering experimental data's and necessary guidelines from research papers on the thermoelectric refrigeration systems, the initial design of the model was made. Based on the heat load calculations, the thermoelectric module is selected. The system was fabricated and was experimentally tested for the cooling purpose. The capability of the system to maintain the required temperature and the time for reaching the same were analyzed. The results showed that the system can maintain the vaccine storage temperature at 8°C and 13 °C under ambient temperature up to 30 °C with minimum power consumption of 64 Watt.

ICAMCCT_228: COMPARATIVE STUDY ON SELF-CURING CONCRETE WITH PARTIAL REPLACEMENT OF FINE AGGREGATE WITH BASALT FIBRE

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Abstract - This work has investigated the potential use of basalt fibre as a concrete material. The basalt fibre is used as fine concrete aggregate. In the laboratory test, conventional fine aggregate was replaced at 0%,1%,1.5%,2% replacement level. The strength development of the concrete mixes containing basalt fibre was compared to that of conventional concrete with sand as fine aggregate. The result of this experiment shows increase in flexural strength and tensile strength with improvement in the compressive strength. This project also deals with the experimental analysis on strength and durability of concrete by partially exchanging fine aggregate with basalt fibre. This project is self-curing concrete type done by using 1% replacement of Polyethylene Glycol (PEG) by weight of cement.

Index terms: High strength concrete, replacement of cement, replacement of aggregate, Self curing concrete, potential use of basalt fibre.

AVCE_IJSRST_274: A COMPACT DESIGN APPROACH FOR PLANT TEMPERATURE STEADY STATE ANALYSIS SYSTEM USING FUZZY LOGIC

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Abstract - The purpose of the steady state analysis of the temperature parameter is to heat the system to a specified temperature, then maintain it at that temperature in controlled manner. Fuzzy Logic Controller (FLC) is best way in which this type of precision control can be accomplished by controller. In the last decades, a lot of effort has been made in order to improve the use of environmentally friendly and renewable energy sources. In a context of small energy usage, energy harvesting takes place and thermal energy sources are one of its main energy sources because there are several unused heat sources available in the environment that may be used as renewable energy sources. To rapidly evaluate the energy potential of such thermal sources is a hard task, therefore, a way to perform this is welcome. In this work, a thermal pattern emulation system to evaluate potential thermal source in a easy way is proposed. The main characteristics of the proposed system are that it is online and remote, that is, while the thermal-source-under-test is being measured, the system is emulating it and evaluating the generated energy remotely by using wireless application protocol. The main contribution of this work was to replace the conventional Proportional Integral Derivative (PID) controller to a Fuzzy-Proportional Integral (PI) controller. In order to compare both controllers, three tests were carried out, namely: (a) step response, (b) perturbation test, (c) thermal emulation of the thermal pattern obtained from a potential thermal source: tree trucks. Experimental results show that the Fuzzy-PI controller was faster than the PID, achieving a setting time 43.26% faster, and also was more efficient with a maximum error 55% smaller than the PID.

Keywords: fuzzy controller; energy harvesting; thermal emulation, wireless application protocol.

ICAMCCT_230: EXPERIMENTAL INVESTIGATION ON CONCRETE WITH A REPLACEMENT OF CEMENT WITH SLICA FUME AND COARSE AGGREGATE WITH PEBBLES

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Abstract - In the past, there has been considerable attempts for improving the properties of concrete with respect to strength and durability, especially in aggressive environment. High performance concrete appears to be better choice for a strong and durable structure. A large amount of by the product or wastes such as fly ash, copper slag, silica fume etc. Are generated by which causes environment as well as health problems due to dumping and disposal. Proper introduction of silica fume in concrete improving both the mechanical and durability characteristics of the concrete. This paper present literature review on replacement of cement by silica fume which includes current and future trends of pervious concrete using pebbles as coarse aggregate and M30 cement as binder. Properties such as compressive strength, split tensile strength, flexural tensile strength, coefficient of permeability, percentage of voids and dry density properties were examined and relationship between testing age strength parameters and permeability parameters were drawn to evaluate the effects of pebbles aggregate in previous concrete. Furthermore, durability study such as salt resistance and sulphate resistance were also carried out to evaluate the chemical resistances property of PC. The result are compared with convention control mix made of Ordinary Portland Cement binder. The result indicate that using of pebbles as coarse aggregate shows sufficient strength, permeability and durability properties.

Index term: High strength concrete, Replacement of cement, Replacement of aggregate.

ICAMCCT_231: EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF FINE AGGREGATE BY JULIFLORA POWDER AND COARSE AGGREGATE BY PALMYRA SEED SHELL

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Abstract - One of the major drawbacks of plain cement concrete is that it is brittle. The failure will be sudden , particularly in structure which are subjected to earthquake, blast or suddenly applied loads. An ideal solution to overcome the serious disadvantage of plain cement concrete is to add fibres. The main aim of our project is to evaluate the performance of concrete by partial replacement of fine aggregate with juliflora and coarse aggregate with Palmyra seed shell. In this project fine aggregate is replaced by juliflora powder at 2.5%. along with partial replacement of coarse aggregate with Palmyra seed shell. The coarse aggregate is replaced with 10%,20%,30% by Palmyra seed shell . The design mix used for the project is M40 grade. The conventional concrete and Palmyra seed shell with juliflora concrete specimens were casted and tested for compression strength and split tensile strength for 7 days ,14 days and 28 days.

Index terms: High strength concrete, replacement of cement, replacement of aggregate,, potential use of Palmyra seed shell.

ICAMCCT_232: AN EFFICIENT SEGMENTATIONOF MULTIMODAL MR IMAGES USING UNIFIED TECHNIQUE

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Abstract - Among brain tumors, gliomas are the most general and aggressive, leading to a very short life expectancy in their highest grade. So, automatic and reliable segmentation methods are required; however, the large spatial and structural variability among brain tumors make automatic segmentation a challenging problem.A unified algorithm is introduced to spot glioma boundaries in brain MR images. It consists of three components: the spatial fuzzy c-mean (SFCM) algorithm, a new region growing method, and an improved distance regularized level set evolution (DRLSE) method. To estimate the, use SFCM clustering with the SVM selection. Next, region growth begins to detect the glioma region based on the notion of "affinity" (RGBA). This novel region growing method extracts seed points in terms of ROI location information rather than its intensity features. Then a two-step approach is intended to refine the glioma regions due to the rise of many PGRs after the growth of the region. Separating these non-tumor regions is given priority to region merging based on MDL criteria. Finally, the enhanced DRLSE method smoothesglioma boundaries. The experimental results show the efficacy of the unified algorithm in medical MR images.

ICAMCCT_233: EXPERIMENTAL INVESTIGATION OF SHOCK WAVE AND BOUNDARY LAYER INTERACTION ON THE EXTERNAL TRANSONIC FLOW OVER AN AIRFOIL

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Abstract - The interaction of shock wave with boundary layer has significant influence on both the internal and external flow over the solid surfaces. Out of all other fluid flow situations, one such flow situation, i.e., the flow over the wing in transonic flow regime has determinant effect on the wave drag produced by that body. A numerical simulation has been carried out by solving RANS equation with turbulence model using commercial CFD package. Analysis of fluid flow behavior has been performed for two freestream Mach No. 0.5 and 0.7 by extracting spatial variation of fluid flow parameters for the entire flow field over the airfoil and also extracting the fluid flow parameters on the surface of the of the airfoil. In the transonic regime, the critical Mach number have been achieved by the normal NACA 2412 airfoil while flow velocity over the body increases. After critical Mach No, while increasing the flow velocity further, there is a formation of shock wave on the surface of the airfoil due to the supersonic conditions achieved on the surfaces. This shock waves impinges on the boundary layer present on the surfaces and this interaction results in a complex fluid flow. Because of the interaction of the shock wave with the boundary layer, the turbulent intensity and skin friction coefficient increase on the surface of the airfoil due to the turbulent fluid flow structure after the interaction point

Keywords: *CFD, Transonic flow, Shockwave and Boundary layer interactions, Critical Mach number, Mesh analysis.*

ICAMCCT_234: CONTROL OF SHOCK WAVE BOUNDARY LAYER INTERACTION USING BLEED SUCTION IN HYPERSONIC VEHICLE

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Abstract - Develop a Numerical scheme to predict the location of subsonic separation bubble (SSB) formed due to the shock wave boundary layer interaction .To validate the Numerical scheme and grid by conducting validation studies to identify the location Subsonic seperation bubble based on the Numerical analysis. To modify the inlet design to establish suction to control the Subsonic seperation bubble using boundary layer bleeding. Compare the inlet performance of a inlet before and after the boundary layer bleeding.

ICAMCCT_235: STUDY OF WATER ABSORPTION AND THE OXIDATION BEHAVIOR OF JUTE FIBER REINFORCED COMPOSITES

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Abstract - Water absorption of natural fiber plastic composites is a serious concern especially for their potential outdoor applications. In this paper, jute fiber reinforced with unsaturated polyester composites are subjected to water immersion tests in order to study the effects of water absorption in normal and salt water. Water absorption tests were conducted by immersing composite specimens into two different environmental conditions included normal water and sea water at room temperature for a period up to 48h.The water absorption of jute fiber reinforced unsaturated polyester composites at salt water follows the pseudo-Fickian behavior. The thermal stability of the prepared composites is evaluated by thermogravimetric analysis. It has been observed from the above tests, jute fiber composites show better hydrophobic nature and degradation at high temperatures were studied

Keywords: *Jute fiber, Composites, TGA, pseudo-fickian*

ICAMCCT_236: MODELLING AND FABRICATION OF AERIAL SURVEILLANCE AND MULTIPURPOSE GAS LEAKAGE DETECTION DRONE

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Abstract - An unmanned aerial vehicle is defined as an aircraft which has no human operator and it uses aerodynamic forces to ensure the vehicle is lifted and can fly autonomously or control by remotedly.It can be expanded or retrieved.The drones and possibilities of using its construction and important elements are propeller,engine,power distribution,flight control system,electronic control and communication system.It is related with roll,yaw,lift.In addition it is equipped with the different multigas leakage detecting sensor which is used to detect the leak gases like carbonmonoxide(CO),alcohol(OH),smoke and Liquefied petroleum gas(LPG) and also wifi transfer camera is fitted to locate the position of drone and its live stream.These output values are monitored through the android mobile phones and laptops.

Keywords: Drone, Aerial, survilleance, Gas-leakge-detection, sensor, unmaned aerial, vehicle, aurdinouno, leak rate quantification.

AVCE_IJSRST_276: COVID-19 TREATMENT AND SEGMENTATION AND CLASSIFICATION USING LUNG CT SCAN IMAGES

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Abstract - Covid-19 is a leading cause of coronavirus death in the world. Key to survival of patients is early diagnosis. Computer Aided Diagnosis (CADx) systems can assist radiologists and care providers in reading and analysing Covid-19 CT images to segment, classify, and keep track of nodules for signs of coronavirus. In this thesis, we propose a CADx system for this purpose. To predict Covid-19 nodule malignancy, we propose a new deep learning framework that combines Convolutional Neural Networks (CNN) and Region based segmentation to learn best in- plane and inter-slice visual features for diagnostic nodule classification. Since a nodule's volumetric growth and shape variation over a period of time may reveal information regarding the malignancy of nodule, separately, a deep learning based approach is proposed to segment the nodule's shape at two time points from two scans, one year apart. The output of a CNN classifier trained to learn visual appearance of malignant nodules is then combined with the derived measures of shape change and volumetric growth in assigning a probability of malignancy to the nodule. Due to the limited number of available CT scans of benign and malignant nodules in the image database from the National Covid-19 Screening Trial (NLST), we chose to initially train a deep neural network on the larger LUNA16 Challenge database which was built for the purpose of eliminating false positives from detected nodules in thoracic CT scans. Discriminative features that were learned in this application were transferred to predict malignancy. The algorithm for segmenting nodule shapes in serial CT scans utilizes a sparse combination of training shapes (SCOTS).

ICAMCCT_240: STRESS AND FATIGUE ANALYSIS ON SANDWICH PANELS

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Abstract **-** Sandwich panels are widely used in aerospace and other engineering applications. The strength of the sandwich panels depends on the core used in the construction. Common cross section employed for honey comb core remains hexagonal geometry. The objective of this project is to explore the feasibility of different cross section for the core structure. Circular, hexagonal and square type cross section for the core will be considered for study with different material combinations. Materials combinations are Steel- AL6061 core, AL6061-AL5052 core and AL6061-Thermoplastic Polyurethane core. Numerical simulation will be carried out using ANSYS. Static structural analysis and fatigue life estimation will be carried using ANSYS workbench. 3D modelling of the geometry and assembly will be carried out in Solid works. Stress concentration on the core and fatigue life will be used for understanding the behaviour of sandwich panels. Gerber theory will be used for solving the fatigue life as the material used are ductile in nature. Condition of loading for fatigue study will be fully reversed condition.

AVCE_IJSRST_181: SMART RATIONING BY USING FACE AND FINGER PRINT RECOGNITION SYSTEM S.Mohan, M. Kiruthika, C. Keerthivani, T. Deepa,

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Abstract - This paper is about the face and finger print recognition in ration shop. Ration cards plays an important role for the household details such as to get gas connection, family member details. There are many biometric process in that face recognition is the best method. In this paper we are going to describe the ration shop monitoring system without human interface and it processed by Raspberry Pi .This system also reduces the corruption in the current ration distribution system .This system will be verified with family member for authentication of user and validated the purchase by employee. The consumer gets a text message mentioning the purchase details by using IOT. ***Key Words:*** Internet Of Things (IOT), Image processing.

AVCE_IJSRST_259: AUTOMATIC MONITORING AND CONTROLLING SYSTEM FOR WASTE MANAGEMENT USING IOT

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Abstract - The major problems affecting solid waste management are unscientific treatment, improper collection of wastes and ethical problems. This is in turn leads to hazards like environmental degradation, water pollution, soil pollution, and air pollution. Annually the country is generating solid waste of around 100MT (Million Tons). The problems of waste generation and management has become a serious issue of concern to many scholars in environmental studies. This paper critically examine the attitude of urban dwellers to waste disposal and management. One hundred and fifty copies of questionnaire were administered to residents in the area. Information such as the various classes of waste, frequency of waste disposal and methods of waste evacuation were obtained from the questionnaire. Finding revealed that family size has a great influence on waste disposal and generation which was evidence in the hypothesis with a calculated value of 7.32 greater than the critical value of 2.43 at 0.05 level of significance. Besides, environmental enlightenment has changed people's attitude towards waste generation and management in the area. This was affirmed in the calculated f-value of 3.18 greater than critical t-value of 1.97 at 0.05 level of significance. However, this result indicate that effective environmental enlightenment would help avert the attitude of urban dwellers to waste disposal and management in the area. So, to avoid this we can implement "Automatic Monitoring and controlling system for Waste Management using IOT". Disposing the Waste like wet, dry or biodegradable and non-biodegradable which are getting dumped together are being the big deal in India right now. There were large amount of plastics and other wastes were produced every year which are not currently carried out in any recycling plants. In order to provide solution for these wastes we have done a project "IOT based smart waste management system". This will endure the greenish environment and support the swatch bharat for cleanliness.

Keywords: IoT, Waste management, Sensor.

AVCE_IJSRST_185: FOOD WASTE MANAGEMENT SYSTEM USING SMART TRASHBIN

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Abstract - Over the years food wasted by people is not measured to reduce the wastage of food. Smart Bin System using GSM module to develop an intelligence bin which can monitor food waste through sensors and gives the information in detail, which are connected to microcontroller. Sensors will measure and calculate the amount of food waste disposed by every person and stores it in the database. Connecting embedded electronic device through a GSM module. It can be implemented with four steps Computing, Programming, Interfacing and Networking. RFID Card is the object used by every user for individual identification. RFID Card Reader is used to sense the RFID Card. After Successful detection of RFID Card bin will be opened for the user to dispose the food waste. Load cell is used to measure the food waste disposed by the particular user. It is connected with power Supply. The food wastage information is send via the SMS of the higher authorities. LCD Display is used to display the user id and food wastage details. DC Power Supply is used. Once the bin is full, information about that will be passed to the Authorities.

Keywords*:* Internet of things, RFID, Load cell.

AVCE_IJSRST_187: DEVELOPMENT OF PERMIT TO WORK SYSTEM FOR THE EFFECTIVE HAZARD COMMUNICATION & CONTROLS

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Abstract - Oil & Gas industries, Production/Manufacturing industrial, and Construction Industries are comprised of high-risk activities which need to be controlled, for the safety of those carrying out the work and to maintain a safe workplace. A permit-to-work (PTW) system is a formal communication written system designed to control all types of work (construction / maintenance) that are identified as potentially hazardous. The aim of this project is to contribute to the understanding of the implementation issues with the PTW system. This project identifies PTW system issues and proposes the best practices for effective implementation and controls on hazards through PTW system.The project carried out by reviewing articles on PTW systems and analysing accidents that resulted from poor implementation of PTW systems using case studies and previous literature review on PTW implementation issues. Outcomes from the reviewed case studies that gaps in the PTW implementation are key hazards and control measures are not appropriately captured and the communication was failed. The best practices provide invaluable indications for procedure of an effective PTW system practice and improvements in future research.

AVCE_IJSRST_186: AN APPROACH TO SPATIAL DATA CLASSIFICATION USING DICTIONARY BASED SEQUENCE CLASSIFIER

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Abstract - Data mining and soft computing techniques have been developed to an extend that it becomes possible to automatically mine knowledge from spatial data. Classification problem is prevailing in various disciplines. Developing effective classifier is more challenging for researchers. It is not possible for a single classifier to be highly effective to work with all types of datasets. Therefore classifiers vary based on data distribution. In this paper we propose a classifier called Dictionary based Sequence Classifier (DBSC) technique which classifies the spatial data.this technique classifies the datas from a weather dataset. This method first extracts the features from learned dictionary. Then the attributes are sorted and objects classified using a sequence classifier.

Keywords: *Data mining, soft computing, classifier, dictionary***.**

AVCE_IJSRST_188: SAFETY AUDIT ANALYSE – AN ACCIDENT STUDY IN CHEMICAL INDUSTRY

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Abstract - Accidents are costlier to management in an industry and affect reputation of the company, financial position, quality and quantity of the output and morale of the workforce. In addition to this, new hazards are emerging in work place resulting in accidents to workforce due to modernization and mechanization of industrial activities. In Industry, management adopts several methods to safeguard the Safety and Health of plant and people. Amongst the various methods, Safety audit is one of the dependable methods to assess all the factors of safety and health activities. Safety Audit is a systematic examination of the plant and document review by a team with appropriate backgrounds and experience. This is an intensive plant inspection intended to identify the plant conditions and operating procedures that could lead to accidents or significant losses of life and property. Purpose of the audit is identification of hazards arising due to deviations from applicable statutes, non statutory standards and codes of practices, safety related instructions of manufacturers of equipment and safety operating procedures as supplied by the technology suppliers and subsequent revisions etc. However, even after safety audits, accidents are occurring in industries, which leads to huge loss to nation in terms of loss to workforce and management. In order to prevent such losses, safety audit system to be strengthened by modifying applicable statutes for industries and ports. In order to modify statute, it has to be substantiated for need of modification and ways of modification. This report basically tell the ways to carryout above said work by collectively getting data for recommending changes in statutes by conducting safety audit in selected industries, studying major accidents occurred in the past and analysing existing latest technologies for the process and equipment.

Keywords: Plant Inspection, Accident, Statutes, Safe Operating Procedure, Hazards, Process.

AVCE_IJSRST_189: EFFECTIVE PREDICTION OF SOLAR POWER USING NEURAL NETWORK

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Abstract - With climate change driving an increasingly secure influence over governments and municipalities, sustainable development, and renewable energy are gaining traction across the globe. In this sense, a tool that aids predicting the energy output of sustainable sources across the year for a particular location can aid greatly in making sustainable energy share more. Energy forecasting can be used to reduce some of the challenges that arise from the uncertainty in the resource. Solar power forecasting is observe a growing attention from the research community. The project presents an artificial neural network model to produce solar power forecasts. Sensitivity analysis of several input variables for best selection, and comparison of the model performance with multiple linear regression and resolve models are also shown.

AVCE_IJSRST_248: AUTOMATIC BRAIN TUMOR SEGMENTATION ON PREOPERATIVE AND POSTOPERATIVE MRI USING REGION GROWING ALGORITHM

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Abstract - Detection and segmentation of mixed necrotic and tumor tissue along with the neighboring vessels is a challenging scenario in radiation oncology application. The MRI image is an image that produces a high contrast images indicating regular and irregular tissues that help to distinguish the overlapping in margin of each tissue. All automatic seed finding methodologies may suffer with the problem if there is no growth of tumor and if any small white part or grey part is present there. Segmentation of images with complex structures such as magnetic resonance brain images is difficult using general purpose methods. Region based active contour models are widely used in brain tumor segmentation. But when the edges of tumor is not sharpen, then the segmentation results are not accurate i.e. segmentation may be over or under that may happened due to initial stage of the tumors. Here a method of tumor detection based on texture of the MRI and if it is detected then to segment it automatically using automatic seeded region growing method is proposed in to separate the irregular from the regular surrounding tissue to get a real identification of involved and non-involved area that help the surgeon to distinguish the affected area precisely. The methods used in this paper are texture analysis and automatic seeded region growing method and is implemented on MRI of brain to detect the tumor boundaries in 2D MRI for different cases.

Keywords: Brain tumor segmentation, MR Image, region growing, necrotic tissue segmentation, enhancing cell, radio surgery, radiotherapy.

AVCE_IJSRST_249: OPTIMIZED CLUSTERING ARCHITECTURE WITH TS ALGORITHM FOR INTELLIGENT TRANSPORTATION SYSTEMS

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Abstract - Wireless sensor networks (WSNs) as one of the non-negligible components of the Internet of Things (IoT) have proven to be a pillar of the Intelligent Transportation Systems (ITS). The tasks of collecting, processing and fusing the information related to traffic, accidents, congestion and also the detection of pavement distress on roads, are efficiently handled and monitored by WSN-based IoT. However, the energy constraints of the sensor nodes deployed along the roadside, create a perturbing concern for
their realization in architecture. Therefore, to address this concern, in this paper, we have proposed an optimized sensing technique that employs two sinks. We term it as
Dual sink-based Optimized Clustering Architecture employing Tunicate Swarm Algorithm (TSA), i.e., DOCAT in short. The fitness function of DOCAT integrates the novel fitness parameters for Cluster Head (CH) selection. The parameters are: 1) Residual and initial Energy, 2) Distance of the node from sink, 3) Intra-Cluster Average Distance (ICAD), 4) Network's average energy, and 5) Energy threshold. DOCAT is anticipated to be employed for accident prone roads, from where the critical accidental information is transmitted to healthcare venues through the IoT platform.

***Keywords** : Wireless Sensor Network, WSN, DOCAT, CH, TSA,*

AVCE_IJSRST_250: GUJRATI SPEECH RECOGNITION USING CELLULAR AUTOMATA ALGORITHM Vidya Gangadhar Dahake[1], Dr. Jagdish D. Kene[2]

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Abstract- The speech is primary mode of communication among human being and also the most natural and efficient form of exchanging information among human in speech. Speech Recognition can be defined as the process of converting speech signal to a sequence of words by means Algorithm implemented as a computer program. Speech processing is one of the exciting areas of signal processing. The goal of speech recognition area is to develop technique and system to develop for speech input to machine based on major advanced in statically modeling of speech, automatic speech recognition today find widespread application in task that require human machine interface such as automatic call processing. Communication among the human being is dominated by spoken language, therefore it is natural for people to expect speech interfaces with computer which can speak and recognize speech in native language. Machine recognition of speech involves generating a sequence of words best matches the given speech signal. The cellular automata algorithm is used for speech enhancement and reduction in noise. The researcher has studied the different Gujarati character from their pronunciation point . The main objective of the research is to dictate the Gujarati character pronounced by the user.

Index Terms- Speech enhancement , CA algorithm, Gujrati character, Feature Extraction, LPC, MFCC processor, pitch detection, Gujrati character

AVCE_IJSRST_251: A COMPREHENSIVE STUDY OF UNDERWATER IMAGE ENHANCEMENT TECHNIQUES

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Abstract **-** Low contrast, blurring details, colour deviations, non-uniform lighting, and other quality issues are common in underwater images. The enhancement of underwater images is a critical problem in image processing and computer vision for a variety of practical applications. Underwater enhancement has attracted a growing amount of research effort over the last few decades. However, a thorough and in-depth survey of related accomplishments and improvements is still lacking, especially a survey of underwater image datasets, which is a key issue in underwater image processing and intelligent applications. To promote a thorough understanding of underwater image enhancement, this paper examine the contributions and shortcomings of current approaches.

Keywords: blurring; enhancement; histogram distribution; denoising.

AVCE_IJSRST_252: TRENDING HASH TAG USING IFSS ALGORITHM

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Abstract - At this moment, a huge number of people engage in social networks is provoke a fast and wide spectrum of topics.Such trending topics are usually derived from the most frequent searches, the published posts and the daily new.The automated analysis for such data requires topics detection and tracking methods.Many challenges are being faced.web document often consists of several topics, the suggested model employs a fuzzy C-Means (FCM) clustering based trending topics detection.It applies a semantic document similarity algorithm to determine such vagueness issues caused by the usage of synonyms, homonyms or different abstraction levels.This algorithm is also used to summarize the long documents. Furthermore, an incremental clustering technique is utilized to preserve high cohesiveness up-to-date top trending topics.

Index Terms: News Aggregator, Trending Topics Detection, Semantic Similarity, Text and Web Mining, NLP, Incremental, FCM Clustering.

AVCE_IJSRST_254: LIVER TUMOR DETECTION IN CT IMAGES BY VGG16 CONVOLUTIONAL NEURAL NETWORK Keerthana G , Keerthi T, Preetha Lekshmi N , A .Anisha

St .Xavier's Catholic College of Engineering, Chunkankadai .

Abstract - Automatic tumor detection and segmentation is essential for computer-aided diagnosis of liver tumors in CT images. However, it is a challenging task in low-contrast images as the low-level images are too weak to detect. In this project, we propose a new method for the automatic detection of liver tumors. VGG16 CNN has been used as a powerful tool for liver cancer analysis. Whereas the CT-based lesion-type definition defines the diagnosis and therapeutic strategy, the distinction between cancer and non-cancer lesions is crucial. It demands highly qualified experience, expertise, and resources. However, a deep end-to-end learning approach to help discrimination in abdominal CT images of the liver between liver metastases of colorectal cancer and benign cysts has been analyzed.

AVCE_IJSRST_253: EXPERIMENTAL INVESTIGATION ON AIR PREHEATING SYSTEM USING WASTE HEAT IN AUTOMOBILE

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Abstract - Generating electricity in present there is a shortage of fossil fuel, oil, exhaust gas, etc. An attempt has been made in this project, the exhaust gas is used to rotate the generator and this electrical energy is stored in a battery. It is also good with regard to economic considerations and engine efficiency. Burning of these fuels causes environmental problem like radio activity pollution, global warming etc. So that these (coal, oil, gas) are the limiting resources hence resulting new technology is needed for electricity generation, by using thermoelectric generators to generate power as a most promising technology and environmental free and several advantages in production. Thermoelectric generator can convert directly thermal (heat) energy into electrical energy.

AVCE_IJSRST_255: GPS BASED ONLINE MEDICINE DENTIFICATION SYSTEM

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Abstract - Online medicine identification system is an application that is dependent on the location of a mobile device. This application is part of the larger service viz. the location based services (LBS). This system uses the location based services to help user to find shops from their current place and to find medicine from their location which saves his/her time by making him the facility of fast access of products. Instead of searching throughout the shops manually, one can use the gps enabled mobile device to identify the medicine. A GPS tracking unit is a navigation device normally carried by a moving vehicle or person, that uses the (GPS) to track the product available shops and determine its location. The proposed framework includes three user-facing components: 1) an energy-aware application for end users to recognize their locations and access the services available to them 2) the application, which enables end users to search medicine available on their current location and 3)the application for shops to specify the availability of medicines on shops and in which areas. In order to protect query privacy of the user the existing state-of-the-art schemes either reduce the accuracy of LBS or insert a trusted third party (TTP) between the vehicle user and the location server hosting the LBS scheme. In order to address the security and privacy issues, an efficient privacy-preserving mechanism is proposed for protecting the query privacy of the user, information content of the location server, and location privacy-preserving of the vehicle in the LBS scheme. The query privacy of the user and content privacy of the location server is preserved in the exchange.

Keywords: *LBS, GPS, VANET, V2I, Location Based Services, Medicine Identification.*

AVCE_IJSRST_256: A NOVEL FRAMEWORK FOR FULLY AUTOMATED ROI SEGMENTATION OF BRAIN MR IMAGES

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Abstract - Brain region-of-interest (ROI) segmentation based on structural magnetic resonance imaging (MRI) scans is an essential step for many computer-aid medical image analysis applications. Due to low intensity contrast around ROI boundary and large inter-subject variance, it has been remaining a challenging task to effectively segment brain ROIs from structural MR images. The proposed system is the implementation of noise removal and segmentation algorithm. The Rician noise in MRI (Magnetic Resonance Image) degrades the image quality and thus, accuracy in segmentation is reduced and localization of brain may not be precise. The proposed system is a robust approach is proposed which estimates and removes the Rician noise of MRI for improving segmentation and detection of tumours. First, a robust Rician noise estimation algorithm is employed to identify all the pixels with high Rician noise. Second, a bilateral filter based denoising algorithm is employed to filter image in the wavelet domain. Successively a bilateral filter parameter optimization method is adopted, which uses the noise, contrast and frequency components in MRI to select suitable filter parameters for Bilateral Filter (BF). It is suitable for edge preserving and for adaptive denoising to segment image correctly. Further, after denoising the image, the contrast of the image is improved as a pre-processing step before the image segmentation. Next, SVM-based image segmentation algorithm is employed to segment the MRI .

Keywords: *MRI, SVM, Rician noise, Contrast Enhancement, Classification.*

AVCE_IJSRST_257: DESIGN AND IMPLEMENTATION OF AUTOMATION FLOOR CLEANING ROBOT USING GSM

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Abstract - Now a days we are using smarter and more automated. Home automation delivers convenience and creates more time for people. Domestic robots are entering the homes and people's daily lives, but it is yet a relatively new and immature market. However, a growth is predicted and the adoption of domestic robots is evoking. Several robotic vacuum cleaners are available on the market but only few ones implement wet cleaning of floors using water.The purpose of this project is to design and implement an GSM based automatic floor cleaning robot.GSM based automatic floor cleaning robot is designed to make cleaning process become easier rather than by using manual vacuum.The main objective of this project is to design and implement by using Arduino uno, arduino shield, ultrasonic Sensor, Sensor shield version E5,NODE MCU EXP 8266,Damping sponge wiper, motor Shield L293D, and other component to achieve the goal of this project. GSM based automatic floor cleaning robot will have several criteria that are user-friendly.

Keyword: Arduino,GSM,Sensor,BLDC Motor.

AVCE_IJSRST_258: RETROFITTING OF REINFORCED CONCRETE COLUMN BY EXTERNAL JACKETING R. Hariharan[1], R. Vandhiyan[2]

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Abstract -The main reason of the project is to gain the fundamental and technical knowledge of seismic resistant buildings. Because now a day the construction of seismic resistance buildings are increased. Since the future expansions are viable, a framed structure has been selected in consideration with the increased loading. In this project an attempt has been made to design square column strengthened by steel angle and strips (steel cage) by using diagonal steel plate in stainless steel material. Size of the steel angle, strip spacing, grout material between column side and angle, and the connection between the steel cage to the specimen head, were the main studied parameters in this paper.It was concluded that using this strengthening method will be very efficient and a gain in the axial load capacity of the strengthened columns was obtained. This gain was due to the confinement effect of the external steel cage, and the ability of the steel angle to resist an extensive part of the applied axial load. The failure in most of the strengthened specimens was due to the buckling of the steel angle followed by crushing of the original columns.

AVCE_IJSRST_184: SMART FARMING: IOT BASED SENSORS FOR MONITORING AGRICULTURAL FIELD USING SINGLE AXIS SOLAR TRACKING

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Abstract - Agriculture is the primary source of income for about 58 percent of India's population. Agricultural IoT is based on the collection of data for soil or plant can be used to analyze the fertility of the soil. As a result of the monitoring of the sun's location and the positioning of the solar panel, the aim of the project is to design an IoT-based automatic tracking and irrigation system. Solar power will provide a cost-effective solution to all of our energy needs. The solution for the Indian farmer is solar-powered smart irrigation systems. This device consists of a solar-powered water pump and a moisture sensor-controlled automatic water flow monitor. It is the proposed solution for Indian farmers' current energy crisis. This device saves energy by reducing the amount of grid power used and water by reducing the amount of water used. This system can monitor the status of the soil moisture. The monitoring system uses soil moisture sensor for monitoring soil moisture, DHT11 sensor for temperature humidity and methane sensor for measuring the levels of methane. The monitoring system is designed based on microcontroller and transfers the data to the Blynk application. The system can assist farmers in monitoring their fields and making treatment decisions based on the data. It has the potential to boost agricultural output efficiency while decreasing management and farming costs.

Index Terms: Agriculture, IoT, Solar, tracking, soil moisture sensor, DHT11, methane sensor.

AVCE_IJSRST_263: INFLUENCE OF SUGARCANE BAGASSE ASH ON THE DURABILITY CHARACTERISTICS OF SELF COMPACTING CONCRETE

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Abstract - Natural sand is a vital material used for making of concrete and the requirement of sand in Self Compacting Concrete (SCC) is more compared to normal concrete. Now a day's different environmental issues have led to the scarcity of river sand. Due to scarcity of natural sands availability, it is needed to find alternate materials to replace natural sand. The sugarcane Bagasse Ash (SBA) is a by-product of burning of bagasse waste in the sugarcane factories. When it is disposed at the open land, it causes huge environmental problems The SBA as can be used partly as fine aggregate instead of Natural River sand. The use of SBA as fine aggregate in concrete will solve the environmental problems and preserve the natural river sand. In this report the basic material properties were investigated as per the standard codal provisions. The grade of concrete was chosen M30 and Mix design was done based on the EFNARC guidelines. The main focus of the study is to investigate the characteristic strength and durability properties on SCC by using SBA as partial replacement of fine aggregate by about 5%, 10%, 15%, 20% and 25% on volume basis. Fly ash had been used as admixtures in SCC as per EFNARC guidelines. In this study, Glenium B233 polycarboxylate ether based super plasticizers are to be used to reduce water content to attain the high workability. The fresh properties of SCC, strength and durability properties are also to be examined. Finally the results are to be compared with SCC without partial replacement of fine aggregate and results are to be discussed. **Keywords** Sugarcane bagasse ash, Fine replacement, Mechanical properties.

AVCE_IJSRST_261: SECURE DATA TRANSMISSION USING WATER MARKING AND ENCRIPTION TECHNIQUE J.Jeejo Vetharaj[1], S. Nandhini[2], C. Anjali[2]

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Abstract - Data security is a main concern in everyday data transmissions in the internet. A possible solution to guarantee secure and legitimate transaction is via hiding a piece of tractable information into the multimedia signal., i.e, watermarking. To ensure the security of information various security concepts our project proposes a group of two algorithms such as, DCT and RSA algorithms to provide copy right protection to the digital data. The main framework of our proposed method securely hides binary information in color image media, and securely extracts and authenticates it using a secret key. Experimental results prove that our proposed invisible watermarking techniques is resilient to 90% of the well-known benchmark attacks and hence a failsafe method providing constant protection to the ownershiprights.

Index Terms: Multimedia security, Discrete cosine transform technique, Rivest shamir alderman technique, copyright protection.

AVCE_IJSRST_262: IOT BASED SMART AGRICULTURE FIELD MONITORING & INSECT KILLER SYSTEM C.Rajeshkannan[1], P.Naveen Kumar[2]

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Abstract - As a part of agriculture-based citizen, it is our duty to create a beneficial system in which the poor and needy people should not suffer from starvation. Simultaneously the producer also gets benefit by their products both economically as well as through social activities. This thought provokes every person to satisfy and bring solution for those who are in need of it. Different soil sensors are utilized to gauge temperature, moisture, nutrition (Nitrogen(N)-Phosphorus(P)-Potassium(K)) ,dampness and light, stickiness and pH esteem. The data from the sensors in the dirt is shipped off the PIC16f877a A/D converter then from A/D converter it ship off the cloud through Nodemcu. At last we can see the data spared to cloud on cell phone just as PC. Based on data we realize which yield is reasonable with given soil boundary. Fly insect killer machine assists to attract flying insects towards a system that works on decoy principle. The electronic insect killer light has been fitted with high voltage wires near tube-light which instantly kill insects. In order to differentiate good and bad insects and also for surveillance, here we implemented video monitoring system using Raspberry pi and camera. In addition to that remote control is added to activate or deactivate the killer machine.

Keywords:NODEMCU, Temperature sensor,NPK sensor,Water level Sensor,GSM.

AVCE_IJSRST_260: PASSWORD BASED CIRCUIT BREAKER FOR ELECTRICAL LINE MAN SAFTY Arokyaranjith B, Gokul N, Thiriyogeshwaran R, Vijay P

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Abstract - Along with the constant improvement of different electronic devices, the safety of line man has also become a matter of great concern, as the lives of lineman are at risk while they work by switching off the circuit breakers, because even after the circuit breaker has been turned off, someone can unknowingly turn it on while the lineman is still working. Password Based Circuit Breaker is a simple project that helps in controlling the electrical lines with the help of a password. Nowadays, electrical accidents to the line man are increasing, while repairing the electrical lines due to the lack of communication between the electrical substation and maintenance staff. This project gives a solution to this problem to ensure line man safety. In this) of the electrical lines lies with line man. This project is arranged in such a way that maintenance staff or line man has to enter the password to ON/OFF the electrical line. Now, if there is any fault in electrical line, then the line man will switch off the power supply to the line by entering password and comfortably repair the electrical line, and after coming to the substation line man switch on the supply to the particular line by entering the password. Separate passwords are assigned for each electrical line.

AVCE_IJSRST_264: PERFORMANCE ASSESSMENT OF HOLLOW RC COLUMN WITH DIAGONAL BRACING S.Rivetha[1] and R.Vandhiyan[2]

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Abstract - Hollow concrete columns reinforced with steel bars have been employed extensively for bridge piers, ground piles, and utility poles because they use fewer materials and offer higher structural efficiency compared to solid concrete columns with the same concrete area. And achieving a good degree of strength and ductility. The purpose of this study is to assess the structural performance of hollow column with diagonal reinforcement. Hollow sections are often used for tall bridge columns to reduce their mass, reduce seismic inertia forces, and reduce foundation forces. However, the seismic performance of hollow columns is still not fully understood although a few experimental works were conducted previously. There are several interesting areas which must be investigated for the hollow columns, i.e., ductility capacity, shear strength, effect of diagonal loading in square section. This report presents the flexural ductility capacity of the hollow circular columns with diagonal reinforcement placed near the outside face of the section. And achieving a good degree of strength and ductility. The purpose of this study is to assess the structural performance of hollow column with diagonal confining reinforcement.

Keywords: Hollow column, diagonal reinforcement.

AVCE_IJSRST_265: PUNCHING SHEAR STUDY ON COMPOSITE RC FLAT SLAB USING FINITE ELEMENT METHOD

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Abstract - In recent decades, there was a significant improvement in utilization of RC composite structural elements as a building member. In particular, the usage of composite steel section at the joint regions of structural members are getting developed. The composite RC structural elements show a noticeable performance in higher structural strength with reduced member size, stability and effectiveness makes the attractiveness in construction field. The present study will primarily aim to provide a suggestion in usage of composite steel section in the application of punching shear resistance in composite RC flat slabs. In this regard, an experimental investigation is going to be done to study the punching shear characteristics of composite RC flat slab. To compare the results obtained from experimental investigation, an analytical investigation is also going to be stimulate using finite element analysis software "ANSYS". The basic properties of composite steel and reinforcement were done experimentally to model the material properties in "ANSYS" software. The parameter considered in this study is the embedding the additional composite steel member with different sections and shape at the punching failure zone to resist the punching shear force. The punching shear performance in terms of load carrying characteristics, failure modes are going to be examine experimentally and analytically. ***Keywords:*** RC flat slab, punching shear, finite element analysis and ANSYS.

AVCE_IJSRST_266: SEISMIC FRAGILITY CURVES OF RC ELEMENTS CONSIDERING ITS CORROSION EFFECTS

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Abstract - Seismic fragility of reinforced concrete (RC) elements is defined as the conditional probability that the seismic demand exceeds the corresponding capacity, specified for a certain performance level, for given seismic intensity measures. However, the structural properties of RC elements change over time due to the onset of corrosion in the reinforcing steel. Therefore, seismic fragility of RC elements changes during an element lifetime. The study proposes a method to estimate the seismic fragility of corroding RC elements. Structural capacities are defined using probabilistic models for deformation and shear capacities of RC elements. Fragility curves are useful tools for showing the probability of structural damage due to earthquakes. The main aim of the study is to develop the fragility curves for RC elements considering its corrosion effects. Push over analyses and Incremental dynamic analyses were performed for those sample RC elements using the seismic intensity and the corrosion effects to determine the fragility and collapse capacity of each sample RC elements. OpenSEES is a software framework for creating models and analysis methods to simulate structural and geotechnical systems. ***Keywords:*** Fragility curves, OpenSEES, RC elements, Corrosion, Analytical Study.

AVCE_IJSRST_267: IMPACT OF CARBONATION IN RC STRUCTURES

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Abstract - The Corrosion of reinforcement in concrete has been identified as a major cause of deterioration in reinforced concrete (RC) structures. Carbonation is the one of the factor which affect the durability of concrete and accelerates the corrosion in RC structures. Results from previous studies shows that co2 concentration in the atmosphere was 390ppm in the year 2010. That will increase at 414ppm in the year 2020, the increasing co2 concentration in atmosphere increases carbonation effect in concrete and it leads to reinforcement corrosion in RC structures. Hence adoption of suitable protective measures are essential for exposed RC structures against carbonation induced corrosion. In this study we numerically evaluate the concrete carbonation with different climatic condition using the mathematical software MATLAB and compare these results with the existing models. The results conclude that the Yoon model is relatively nearer to the existing building modelling, Numerical model created in the MATLAB is verified with experimental investigation.
Keywords: *Carbonation, MATLAB, Corrosion, Diffusion coefficient.*

AVCE_IJSRST_268: MPPT ALGORITHEM BASED BIDIRECTIONAL DC-DC CONVERTER USING SOLAR PV ARRAY S.Karthikkumar, Vishnu Bharathi B, Santhosh kumar M, Sivanesh K, Ranjith K

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Abstract - An integrated system of Bidirectional DC/DC Converter with Solar PV module and DC load has been proposed in this paper. The main aim of this paper is to meet the load demand at every instant of time by keeping the DC bus voltage constant with the help of Bidirectional DC/DC converter integrated with the Solar PV module also to implement the MPPT algorithms to track the maximum power from the solar PV array. This converter can operate with Perturb and Observe algorithm based soft- switching. Soft switching is provided to reduce the losses and stresses on switches. In BIDC we have a high gain output through the solar array which is charging the EV battery and gives the high performance of the battery. In the proposed system improve the performance and suitable to connect the multilevel inverters due to the presence of different inputs at different voltage levels., which is also used to improve the efficiency of bidirectional dc/dc converter and reduced switching loss, switching stress. The PV module is operated at maximum power point using MPPT technique. Perturb and Observe method of MPPT has been used in this paper. The solar PV array fed EV battery with the bidirectional DC-DC converter are modelled and simulated using MATLAB Simulink and the results are shown in the paper. ***Keywords:*** Bidirectional DC/DC Converter, Solar PV, Arduino UNO microcontroller.

AVCE_IJSRST_269: REMOVAL OF PHENOL AND B-NAPHTHOL FROM AQUEOUS SOLUTIONS USING CASHEW NUT SHELL CHARCOAL P. Jeya Violet[1], Dr. K. Jemila Rose[2]

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[2]Assistant Professor, Department of chemistry, Government Arts and Science College, Kanyakumari.

Abstract - The present study was aimed at removing phenol and β- naphthol using cashew nut shell charcoal. The effect of adsorbent dosage, contact time, heating and initial concentration of the kinetics of adsorption was studied. It was shown that phenol and β-naphthol removal is increased with increasing adsorbent dosage. The rate of adsorption increases with increase in contact time until equilibrium is reached after which there will be no much variation in the rate of adsorption. In the case of increasing temperature, here also the removal of phenol and β- naphthol increased. The adsorption data fitted well with Freundlich adsorption isotherm.

Key Words: Adsorption, Phenol, β- napthol, Cashew nut shell charcoal, Freundlich adsorption isotherm.

AVCE_IJSRST_270: ANTI BREACH DOOR LOCK SECURITY SYSTEM

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Abstract - One of the most important concerns in the modern-day world, be it for homes or businesses is security. This article provides the information of Anti-breach door lock security system for homes or business places to avoid threat. ***Keywords:*** IoT system, raspberry pi, Home security

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AVCE_IJSRST_271: COMPARISION OF OXYGENATED ADDITIVES ON THE PERFORMANCE OF DI DIESEL ENGINE

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Abstract – Development in the field of alternative fuel is essential from the last decade in order to create the green environment and to solve the concern over the fossil fuels. Biofuels like alcohols and biodiesel are proposed as oxygenated additives for Internal Combustion Engines to control the emission and as better alternative for fossil fuel. In this work alcohol is blended with diesel and an attempt is made to increase the efficiency of the diesel engine and to reduce the emissions. For the above Methanol and Propanol are used for the study. They are blended separately with diesel at the Concentrations of 10%, 15%, 20% & 25%. Performance and emission characteristics are obtained experimentally in four stroke diesel engine. The results were compared to select the better oxygenated additive having the benefits such as reduction in emission, increase in efficiency of engine and low fuel consumption.

Keywords: Oxygenated Additives, Diesel Engine, Performance and Emission Characteristics.

AVCE_IJSRST_272: PHOTO RECOGNITION OF ALZHEIMER'S DISEASE USING CONVOLUTIONAL NEURAL NETWORK THROUGH ARTIFICIAL INTELLIGENCE

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Abstract - As an algorithm with excellent performance, convolutional neural network has been widely used in the field of image processing and achieved good results by relying on its own local receptive fields, weight sharing, pooling, and sparse connections. In order to improve the convergence speed and recognition accu- racy of the convolutional neural network algorithm, this paper proposes a new convolutional neural network algorithm. First, a recurrent neural network is introduced into the convolutional neural network, and the deep features of the image are learned in parallel using the convolutional neural network and the recurrent neural network. Secondly, according to the idea of ResNet's skip convolution layer, a new residual module ShortCut3-ResNet is constructed. Then, a dual optimization model is established to realize the integrated optimization of the convolution and full connection process. This paper helps a person to recognise the severity of a person with Alzheimer 's disease by simply viewing the image of the affected area. Alzheimer's disease can be classified as early-onset or late-onset. The signs and symptoms of the early-onset form appear between a person's thirties and mid-sixties, while the late-onset form appears during or after a person's mid-sixties

Index Terms: CNN, ReLU, AD, AI, MCI.

AVCE_IJSRST_273: CNN ALGORITHAM BASED FAULT IDENTIFICATION IN THREE PHASE INDUCTION MOTOR USING ARTIFICIAL INTELLIGENCE TECHNIQUES

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Abstract - The motors are one of the most crucial electrical equipment and are extensively used in industries in a wide range of applications. This project presents a machine learning model for the fault detection and classification of motor faults by using three phase voltages and currents as inputs. The aim of this work is to protect vital electrical components and to prevent abnormal event progression through early detection and diagnosis. This work presents a fast forward convolutional neural network model to detect some of the commonly occurring electrical faults like overvoltage, under voltage, unbalanced voltage, overload, ground fault. A separate model free monitoring system wherein the motor itself acts like a sensor is presented and the only monitored signals are the input given to the motor. Limits for current and voltage values are set for the faulty and healthy conditions, which is done by a classifier. Real time data from a motor is used to train and test the neural network. The model so developed analyses the voltage and current values given at a particular instant and classifies the data into no fault or the specific fault. The model is then interfaced with a real motor to accurately detect and classify the faults so that further necessary action can be taken.

Key words: motor, fault analysis, machine learning, CNN, predictive maintenance.

ICAMCCT_229: COMPARISON ON CONCRETE WITH A REPLACEMENT OF CEMENT WITH METAKAOLIN AND FINE AGGREGATE WITH M-SAND

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Abstract - Due to constant sand mining,the natural sand is depleting at an alarming rate.So,there is a need to find alternative to natural sand.The aim of the present study is to evaluate the effect of replacing cement with Metakaolin and fine aggregate with M-sand.The M25 grade concrete is prepared and is evaluated for fresh concrete properties like compressive,split tensile,flexural strength and modulus of elasticity. Ordinary Portland Cement is replaced with Metakaolin keeping 10% constant,while the fine aggregate is replaced with M-sand at 0,10,20,30 by weight.The compressive,split tensile and flexural strength properties are compared among all the mixes at periods of 7and 28 days.The results show that the use of Metakaolin and M-sand improves the mechanical properties of concrete.The optimum results were observed at 10% and 30% replacements of Metakaolin and M-sand respectively.The increase in compressive strength at 28 days only was found to be 29%.

Index term: High strength concrete, Replacement of cement, Replacement of aggregate, MK(Metakaolin).

AVCE_IJSRST_275: SOLAR POWERED AUTOMATED ATMOSPHERIC WATER GENERATOR USING PELTIER DEVICE E.Babu, A.Anushiy, G.Gowtham, M.Kowsalya, M.Ragavi

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Abstract **-** There is a saying ," water has only two aspects ; when mixed with anything it's NEED, and when not it's LIFE". Sometimes the terrible water scarcity in tropical countries like Bangladesh reminds us this quote immensely .Despite the fact that water covers more than two third(around 70%)of the Earth's surface yet at the same time fresh water which can be utilized for drinking and doing regular errands stays rare .Drinking water accessibility is a note worthy issue in some country region in Bangladesh during the summer because of absence of precipitation . For that reason, people need to go a couple of kilometers far from home to get the water . This project aims to solve this problem . In the coastal areas of Bangladesh the percentage of relative humidity is quite high . Along these regions , the humid air can be utilized to meet the water needs of individual by utilizing a dehumidifier unit The Atmospheric Water Generator is one of the option answer for new water recuperation from environment which is straight forwardly consolidated the dampness substance of water vapor from the air . This paper introduces the strategy to build up a model of an AWG in light of Thermo-electric cooler(TEC) that utilized 12volt DC, consequently its apporpriates for utilizing sustainable power sources asset.

Keywords: Bidirectional DC/DC Converter, Solar PV, Arduino UNO microcontroller.

ICAMCCT_237: DESIGN AND AERODYNAMIC ANALYSIS OF WINGLET A Praveenkumar, C Prammasudhan, K Karthik, P Prasanna

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Abstract **-** Winglets being a small structure play an important role in reducing the induced drag in aircraft. Many types of winglets have been designed and their significance in reducing the drag is published. One of the main objectives of this master thesis work is to study about the winglet design and about their contribution in reducing induced drag. A brief overview of wingtip devices and their performance from the manufacturers as well as from airliner's point of view are discussed. Moreover, the role of winglet in reducing the drag of commercial civil jet aircraft is studied and the percentage of drag reduction is calculated by a conceptual approach. A320 specifications are taken to perform induced drag reduction calculation with and without winglets. Indeed, the total drag count reduced with the help of winglets accounts for additional payload which will be an advantage for the aircraftoperator. Reducing the process time in design is one of the important criteria for any field and hence automation with help of CAD tools is very significant in reducing time. This study also aims at developing an automated model for different types of winglets and wing tip devices with the help of CAD technology focused on reducing design time during the initial design process. Knowledge based approach is used in this work and all the models are parameterized so each model could be varied with associated parameters. The generic model created would take different shapes and switches between different types of wing tip devices as per the user's requirement with the help of available parameters. Knowledge Pattern (KP) approach is used to develop the automation process. User Defined Features (UDFs) are created for each type of winglet and tip devices. CATIA V5 R18 software is used todevelop the models of winglets.and,tip.devices.

AVCE_IJSRST_277: DETECTION AND CLASSIFICATION OF PLANT DISEASES USING SVR

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Abstract - Accurate and fast detection of plant diseases can be a great boon to crop yields. Curbing the complete cost to affordable amount is also a serious concern. The present manual technique for the detection of disease is a time-consuming process and many times farmers with humble background cannot afford it. Thus, an automation is needed to make this hectic process fast and well within budget of farmers with low budget. This paper discusses the monitoring of plant diseases using image processing by taking samples of various leaves. In the initial phase, training dataset is created from the collected and enhanced images. Then, a test dataset is prepared arbitrarily and SVR, CNN is utilized for obtaining the classification results. Identification of leaf diseases is the key for preventing the losses in the yield and quantity of the agriculture product. It is very difficult to monitor the plant diseases manually. Leaf diseases can be detected by image processing technique. CNN algorithm is used for leaf diseases classification. Disease detection and classification involve steps like image pre-processing, image segmentation, feature extraction, classification. To detect the plant diseases and to provide the solutions(pesticides) to recover from the diseases.

Keywords: plant diseases, SVR, CNN.

AVCE_IJSRST_278: IMPLEMENTATION OF CLEANING DEVICE FOR IN-PIPE ROBOT APPLICATION

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Abstract - Pipelines are essential tools for transporting water oils, gases and sewer from one place to another, Pipelines are used to interconnect networks from one station to another that involved various diameter sizes and fittings to compensate intended directions. There are many issues that influenced perfoemance of the popelines namelyaging, corrosion, crack and use to colg up with debries, or sediments after long use. There are number of methods available to clean the inside of the closed pipeline namely traditional method like boiling, picing, alcohol and salt and cleaning kits or tools kits such as wire and plunger or large gauge snake. Currently service robots is the best solution that purposely developed to facilitate humans being activities including cleaning, inspection for cracks or reparing damage in pipeline. This paper intends to report about the development of cleaning device for in-pipe robot application. Thus enable the pipelines to transport efficiently with minimum cost of operation.

Keywords: Cleaning Device, robot, Pipeline, Engineering Design Process.

AVCE_IJSRST_280: PERFORMANCE ANALYSIS OF BIOGAS PRODUCTION

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Abstract - The main aim of this study is to produce the biogas from food wastes. In our institute we have two hostels and having their own mess, where daily a large amount of Food waste is obtained which can be utilized for better purposes. Biogas production requires anaerobic digestion. Project was to create an Organic Processing Facility to create biogas which will be more cost effective, eco-friendly, cut down on landfill waste, generate a high-quality renewable fuel, and reduce carbon dioxide & methane emissions. The continuously-fed digester requires addition of sodium hydroxide (NaOH) to maintain the alkalinity and pH to 7. In our study, the production of biogas and methane is done from the starch-rich and sugary material and is determined at laboratory scale using the simple digesters.

Key words: Biogas, Biomass, Anaerobic Digestion, Methane, Renewable Energy.

AVCE_IJSRST_281: PERFORMANCE ANALYSIS OF PHOTOVOLTAIC THERMAL SYSTEM COMBINED WITH THERMAL ENERGY STORAGE USING PARAFFIN WAX AS PHASE CHANGE MATERIAL

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Abstract - This paper presents experimental assessments of the thermal and electrical performance of photovoltaic (PV) system by comparing the latent heat-cooled PV panel with the naturally-cooled equivalent. It is commonly known that the energy conversion efficiency of the PV cells declines with the increment of the PV cell temperature. To absorb the temperature of the PV panel by using heat transfer fluid is a way to increase the PV panel outputs. In the experiment, latent heat thermal energy storage was coupled to the rear side of the PV panel to achieve cell cooling passively. Thermal energy storage (TES) using phase change materials (PCMs) has received increasing attention since the last decades, due to its great potential for energy savings and energy management in the building sector. As one of the main categories of organic PCMs, paraffins exhibit favourable phase change temperatures for solar thermal energy storage. Its application is therefore effective to overcome the intermittent problem of solar energy utilisation, thereby reducing the power consumption of heating, ventilation and air conditioning (HVAC) systems and domestic hot water (DHW) systems. This chapter reviews the development and performance evaluation of solar thermal energy storage using paraffin-based PCMs in the built environment.

Keywords: Photovoltaic cell, photovoltaic (PV) system, solar radiation, thermal energy, phase change material, thermal energy storage, latent heat.

AVCE_IJSRST_282: RECENT ADVANCES ON ENERGY PRODUCTION THROUGH URINE ELECTROLYSIS

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Abstract **-** Since urine is produced everywhere, and a lot of it too humans alone are estimated to produce 6.4 trillion litres a year this idea has a strong local flavour. The ability to produce energy locally could give this technology an edge against other renewable energies such as solar and wind that are only costeffective in certain areas. In this topic we generate electricity from urine this nothing but from urine. This is also called as pee powered generator. Here in this topic the main fuel is urine. Generally the urine has majorly water in addition to other chemicals like ammonia, sulphate, uric acid, urea etc. here the urine is passed to the electrolytic cell and from which hydrogen gas is evolved after electrolysis which is main component for generation. Here in urine urea is also a major component after water generally urea is chemical formula is CH4N2O here the four hydrogen molecules is weakly bonded with the other components. Thus this hydrogen gas is passed through various components this purified gas is given to the generator which generates the electricity.

AVCE_IJSRST_283: PERFRMANCE ANALYSIS OF EVACUATED TUBE THERMAL ENERGY STORAGE USING PARAFFIN WAX AS PHASE CHANGE MATERIAL

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Abstract **-** The turn towards alternative energy sources began quite a long time ago, depending on many factors such as the rapid depletion of fossil fuels, the desire to reduce external dependence on meeting energy needs, and a cleaner and greener energy supply. However, both the growing energy demand and population density necessitate the development of more compact systems that will produce more energy in less space, as well as the economic concerns of reducing energy unit costs, constitute a driving force for alternative energy systems to be more efficient in every respect. The word itself ―Solar, describes that we are dealing with some renewable energy source for a thermal energy storage system. The evacuated tube thermal energy storage(TES) has been a popular throughout the world as it is cost effective and easy to maintain. The system is always successful when its efficiency level increases. The TES systems are gaining popularity in India with increasing number of affluent population in society and environmental concerns from seemingly unchanged reliance on fossil-based fuels. The penetration of these systems and technologies into Indian markets is a welcome development; however there is a need for the method of assessment of their thermal performances. Evacuated tube collector system is one of the effective methods for solar thermal energy storage. The usage of evacuated tube collectors is increasing day by day. This paper describes the evacuated tube TES system with respect to its constructional features.

Key words: Solar energy, Solar radiation, solar collector, Evacuated tube solar collector, Phase change material, paraffin wax, thermal energy storage

AVCE_IJSRST_279: COMPARITATIVE STUDY ON CLASSIFICATION ALGORITHMS FOR DISEASE PREDICTION

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Abstract - Data Mining plays an important role in data analysis process intended to discover data. There is huge amount of medical data but there is lack of powerful analysis tools to discover the hidden relationships and trends within the data. A disease prediction system forecasts the presence of a disease in a patient based on their symptoms. Also, it will recommend essential preventive measures required to treat the disease predicted. Application of data mining in disease prediction helps to predict the most possible disease based on the given symptoms and can avoid the aggression of disease. This paper presents a comparative study on application of classification algorithms for disease prediction. The Findings show that the proposed system can predict disease with an accuracy of 95.67%.

AVCE_IJSRST_285: A DEEP CNN MODEL APPROACH FOR THE EARLY DETECTION OF PLANT DISEASES IN ANDROID Nidhi Daniel, Sreeja S.S

Department of Computer Science and Engineering, Marthandam College of Engineering and Technology,kuttakuzhi

Abstract - A deep CNN model approach for the early detection of plant diseases is to detect the plant diseases in advance and to detect the diseases with the help of modern computer technology. Automatic plant disease detection provides benefits in monitoring the large crop fields and helps in detecting the symptoms of the disease when they are found on the leaves. In this paper, the primarily focus on finding the plant diseases and which will reduce the crop loss and hence increases the production efficiency. The dataset used here consists of several varieties of plants of both affected and healthy, and all these images are collected from various freely available sources and manually. Deep learning with convolutional neural networks has achieved great success in the classification of various plant diseases. In this study, a variety of neuron-wise and layer-wise visualization methods were applied using a CNN, trained with a publicly available plant disease image dataset. The database obtained is properly segregated and the different plant species are identified and are renamed to form a proper database then obtain test-database which consists of various plant diseases that are used for checking the accuracy and confidence level of the project .Then using training data we will train our classifier and then output will be predicted with optimum accuracy. We use Convolution Neural Network (CNN) which comprises of different layers which are used for prediction. The dataset used here consists of several varieties of plants of both affected and healthy, and all these images are collected from various freely available sources and manually. A new CNN model was trained and tested. This paper is concerned with a new approach to the development of plant disease recognition model, based on leaf image classification, by the use of deep convolutional networks.

Index Terms: CNN.

AVCE_IJSRST_284: BIG DATA EQUILIBRIUM SCHEDULING STRATEGY IN CLOUD COMPUTING ENVIRONMENT

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Abstract **-** The large amount of data produced by satellites and airborne remote sensing instruments has posed important challenges to efficient and scalable processing of remotely sensed data in the context of various applications. In this paper, we propose a new big data framework for processing massive amounts of remote sensing images on cloud computing platforms. In addition to taking advantage of the parallel processing abilities of cloud computing to cope with large-scale remote sensing data, this framework incorporates task scheduling strategy to further exploit the parallelism during the distributed processing stage. Using a computation- and data-intensive pan-sharpening method as a study case, the proposed approach starts by profiling a remote sensing application and characterizing it into a directed acyclic graph (DAG). With the obtained DAG representing the application, we further develop an optimization framework that incorporates the distributed computing mechanism and task scheduling strategy to minimize the total execution time. By determining an optimized solution of task partitioning and task assignments, high utilization of cloud computing resources and accordingly a significant speedup can be achieved for remote sensing data processing. Experimental results demonstrate that the proposed framework achieves promising results in terms of execution time as compared with the traditional (serial) processing approach. Our results also show that the proposed approach is scalable with regard to the increasing scale of remote sensing data

AVCE_IJSRST_286: CLOUD SERVER RELIABILITY ENHANCEMENT VIA VIRTUAL MACHINE OPTIMIZATION

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Abstract **-** With the increasing scale of cloud datacenters and rapid development of virtualization technologies, many cloud-based services have been deployed to meet requirements. Virtual machines (VMs) are placed on physical servers, and often provide virtual environment for cloud services. Therefore, virtual machines placement (VMP) problem has gradually attracted many attentions. It is meaningful that how to effectively and efficiently place VMs on servers to guarantee the service reliability and reduce the bandwidth consumption. In this paper, we first formulate VMP with a reliability model and a bandwidth consumption model, and analyse its complexity. This paper proposes a redundant VM placement optimization approach to enhancing the reliability of cloud services. The approach employs three algorithms. The first algorithm selects an appropriate set of VM-hosting servers from a potentially large set of candidate host servers based upon the network topology. The second algorithm determines an optimal strategy to place the primary and backup VMs on the selected host servers with k-fault-tolerance assurance. Lastly, a heuristic is used to address the task-to-VM reassignment optimization problem, which is formulated as finding a maximum weight matching in bipartite graphs. The evaluation results show that the proposed approach outperforms four other representative methods in network resource consumption in the service recovery stage.

ICAMCCT_239: FUEL-AIR MIXING CHARACTERISTICS USING OPPOSED FUEL JET FOR THE FLAME STABILIZATION IN THE SUBSONIC COMBUSTION REGIME

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Abstract **-** The main aim of this project is to observe the fuel-air mixing characteristics and the formation of recirculation zone at various velocities of fuel and air using an opposed fuel jet method of flame stabilization in a combustor model.

The fuel-air mixing characteristics are simulated for the parameters such as Velocity magnitude, Static pressure, Total pressure and Turbulence Intensity through Fluent.

AVCE_IJSRST_288: E-VOTING USING AI

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[1]*Assistant Professor, Department of Information Technology,* [2-5]Student, Department of Information Technology, Sri Sairam Engineering College ,Autonomous Institution, West Tambaram,Chennai-600044.

Abstract **-** *During a pandemic situation like COVID-19, it is very difficult to conduct the election in regular basis. Hereby we came across with a solution to conduct an online election. So, we are planning to design a website application which contains the login page to verify the users by their voter id, username and password. The vote casting webpage contains the details of the ward candidates. The vote is validated by OTP sent to the registered mobile numbers of the users. After OTP verification, image verification is done which enhances the security features in our web application. After the successful verification, the voting security is guarded with AI proctor monitoring software which watches each and every movements of the voter and also the suspicious activities around the voter , if there are third party present nearer to screen and audio will also be recorded in background. Users can vote for the candidates by AI proctoring enabled. When the vote is casted, the same user's login will be expired. The user who already voted, can't vote again. Admins of the election commission can see the voting status anytime by logging into the admin side website. The results of the election will be declared by the governs of the election commission at some specific time.*

AVCE_IJSRST_287: NATURAL AIRCONDITIONING SYSTEM IN BUILDINGS USING PHASE CHANGE MATERIAL (PCM) AND GYPSUM WALLBOARD

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ABSTRACT Research interest into the application of phase change materials (PCM) as energy storage materials in buildings has gathered momentum over recent years. PCMs utilizing latent heat produced during phase change transformation processes do attain higher energy density with small temperature difference than other storage media using sensible heat. One potential concept being pursued for minimizing cooling and heating loads is the integrated PCM wallboard system. This system is based on randomly mixing PCMs into wallboards. This study evaluates the concept of laminated-PCMs as integral part of wallboard system in building fabric. This novel approach of integrating PCMs promotes rapid transfer of latent heat, sharp response to indoor temperature, and minimizes multidimensional mode of heat transfer. It also facilitates production and recycling methods of wallboards. The investigation into the thermal performance of the laminated wallboard system was done numerically and experimentally. Through series of heat transfer simulations and under different sets of properties and conditions, the surface temperature variations were obtained. The temperature variations were then used to calculate the heat flux and the total amount of heat transferred in and out of the wallboard.