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ICSPEC 2021

Giving Wings to Thoughts

INTERNATIONAL CONFERENCE

ON

SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING

(ICSPEC 2021)

18th - 19th June 2021

-

St. Peter's Engineering College

(UGC Autonomous)

(ACCREDITED BY NAAC WITH 'A' GRADE)

Affiliated to JNTU Hyderabad & Approved by AICTE, New Delhi.
Maisammaguda, Opp. Forest Academy, Dulapally (P.O), Kukatpally,
Hyderabad, Telangana 500100.

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ABOUT THE HOST INSTITUTION

St.Peter's Engineering College (SPEC) got established in the year 2007 with a mission to offer quality education at Hyderabad, Telangana. The college is granted with autonomy and accredited by NBA and NAAC with 'A' grade. The institute ranked as 10th best Engineering College by Times of India and 'AAA' grade by careers 360. SPEC is a Premium Institutional Member of CII and NASSCOM. We offer Seven Undergraduate courses in Computer Science and Engineering(CSE), Electronics and Communication Engineering(ECE), Electrical and Electronics Engineering(EEE), Mechanical Engineering(ME), Civil Engineering (CE), Information Technology(IT), Artificial Intelligence and Machine Learning (AI&ML), Computer Science Design (CSD) and Three Postgraduate courses in Artificial Intelligence and Machine Learning (AI&ML), Embedded Systems and Electrical Power Systems as specializations.. We at SPEC,have a track record of outstanding performances of its pass-outs in different spheres. The entire campus is connected by the state-of-the-art laboratories and network. We groom our students, not only in the field of discipline but also broaden their mindset and create a positive Impact.

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INSTITUTE VISION & MISSION

VISION

To promote quality education accessible to all sections of the society without any discrimination of caste, creed, color, gender religion and helps students to discover their true potential.

MISSION

- To provide and equip the stakeholders with knowledge, skills, social values, ethics, scientific attitude and orientation for lifelong learning.
- To create an environment conducive to inhibiting the total involvement and participation.
- Provide infrastructure to arm the students with the competence to be at the forefront of cutting-edge technology and entrepreneurship in the highly competitive global market.

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ABOUT THE CONFERENCE

This INTERNATIONAL CONFERENCE ON SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING (ICSPEC 2021) is a multi-disciplinary conference organized by St. peter's Engineering college, Hyderabad, during 18,19 June 2021. The main aim of the conference is to provide opportunity to various Engineers, Academicians, Scientists and Technical Professionals to share their Innovative research ideas in various fields of Engineering all over the world. The participants can present their research results and development activities in design and optimization in various fields of Engineering. This conference also provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find partners for future collaboration. Submitted conference papers will be reviewed by technical committees of the Conference. All full paper submissions will also be peer reviewed and evaluated based on originality, technical and/or research content/depth, correctness, relevance to conference, contributions, and readability. The full paper will be chosen based on technical merit, interest, applicability, and how well they fit a coherent and balanced technical program.

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CHIEF GUEST MESSAGE

Prof. N. S. Reddy,
Virtual Materials Lab, School of Materials Science and Engineering Gyeongsang National University, South Korea

As an Academician, I sincerely appreciate the Management, Principal of St. Peters Engineering College, Hyderabad, for conducting such a significant technical event: International Conference on "SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING" on 18th and 19th June 2021. The Conference aims to cover all the streams of Engineering and Sciences fields, and it has a broad scope and open for all researchers and faculty to contribute their research in a great platform where the group of experts will meet inthe same place. I congratulate the entire organizing team of this Conference for their dedication to making this event successful. The team interacted with Professors from Foreign Universities, Reputed Institutions IIT and NITs, Researchers, and Industry experts for their excellent suggestions and reviewed, opting for quality papers to the Conference.

The conference experts committee reviewed various papers received worldwide and selected 101 papers to participate in this event. I heartfully congratulate the Conference participants for grabbing an opportunity to share their research ideas among various experts around the globe.

Prof. N. S. Reddy

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WELCOME MESSAGE

Dr. Mohan Reddy

Associate Professor, Curtin University.

As a Continuous Researcher, Academician, and as a professor, I am sincerely appreciating the Management, Principal of St. Peters Engineering College, Hyderabad for conducting such a huge technical event: International Conference on "SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING" on 18th and 19th June 2021. The aim of the Conference is to covers all the streams of Engineering and Sciences fields, and it has a wide scope and open for all researchers and faculty to contribute their research in a great platform where the group of experts will meet on a same place. I congratulate the entire organizing team of this conference for their dedication in work to make this event successful. The team interacted with Professors from Foreign Universities, Reputed Institutions IIT and NITs, Researchers and Industry experts for their great suggestions and also for reviewing, opting quality papers to the conference.

The conference experts committee reviewed various papers received from all over the world and selected 101 papers to participate in this event. I heart fully congratulate the participants of the conference to grab an opportunity to share your research ideas among various experts around the globe.

(Mohan Reddy)

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WELCOME MESSAGE

Dr. A. GOVARDHAN
B. E, M.Tech., Ph.D, FIE, FCSI.
VICE CHANCELLOR, IIIT Basara,
Former RECTOR & PRINCIPAL of JNTUH

On the dates of 18th & 19th June of 2021, I am very happy to welcome all the researchers, faculties and industry persons who are going to be a part of this Great Technical event i.e., International Conference on "SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING" (ICSPEC 2021). This is one of the Major platforms to share the research ideas of various people from Educational Institutions, Researchers from Industry and Scientists all over the world. Participating in an International conference is really an achievement, and this participation improves your ideology related to your interested domains and makes you aware of various new trends in technology.

Conducting an International conference also gives a wide exposure on various key research areas, new trends in the technical aspects, association and communicating with Experts from Industries, Educational Institutions and Journal Editorial Members. I congratulate the Management, Principal and organizing team for their strong stand up on conducting this event without compromising in this pandemic situation.

Once again, I am conveying my warm welcome to all the participants and share your knowledge, theories, ideas, results, experiments, and experiences during your research in this conference.

Good Luck!!!!!!

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WELCOME MESSAGE

Dr. G.N. SRINIVAS
B.Tech., M.Tech., Ph.D.
Professor of Electrical & Electronics Engineering
Vice Principal, JNTU college of Engineering, Hyderabad

As a Continuous Researcher, Academician, and as a Professor & Vice Principal of JNTU Hyderabad, I am sincerely appreciating the Management, Principal of St. Peters Engineering College (Autonomous), Hyderabad for conducting such a mega event: International Conference on "SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING" on 18th and 19th June 2021. The conference aims to cover all the streams of Engineering and Sciences with a wide scope and open for all researchers and faculty to contribute their research in a great platform where the group of experts will meet on a same place. I congratulate the entire organizing team of this conference for their dedication in work to make this event successful. The team interacted with Professors from Reputed Institutions like IITs, NITs, Researchers, and Industrialists for their great suggestions and for reviewing to opt quality papers to the conference.

The conference experts committee reviewed various papers received from all over the world and selected 101 papers to present in this event. From the bottomof my heart I congratulate the participants of the conference to utilize an opportunity to share your research ideas among various experts around the globe.

Wish You Good Luck

Best Regards

Dr G. N Srinivas
Professor & Vice-Principal
JNTU Hyderabad

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WELCOME MESSAGE

Dr. Ramamohan Reddy Kasa
B.Tech., M.Tech., Ph.D.
Professor of Civil Engineering
OSD to V.C & Director, Academic Audit Cell
JNTU, HYderabad

I am delighted to note that St. Peters Engineering College is organizing an International Conference on the theme "Spectacular Progressive Improvements in Engineering Sciences & Computing(ICSPEC-2021). The organizers deserve high appreciation for their commendable effort in conducting this International Conference during Covid pandemic.

I am with the fond hope that this International Conference would provide an opportunity for sharing and exchanging views, ideas and opinions among the researchers, scientists, and academia.

I hope that this unique International and multidisciplinary Conference would provide all the delegates with a transformative experience.

I wish that the deliberations of the conference would be fruitful and meaningful and make genuine and reliable contributions to the scientific community.

Eventually, I express my special thanks and appreciations to all.

I wish the Conference a grand success.

Dr. K. RamaMohan Reddy

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WELCOME MESSAGE

Dr. M. Siva Ganga Prasad

Professor & HoD, Department of ECM,
KLU (Deemed to be University)
Green fields, Vaddeswaram, Vijayawada.

I am Dr. M. Siva Ganga Prasad, Professor & HoD, Department of ECM, Koneru Lakshmiah Educational Fondation, Green fields, vaddeswaram, Vijayawada. International Conference on "SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING" (ICSPEC 2021) is a large platform where so many researchers, scientists, experts in industry and teaching will take part and they can share their views and ideologies about their research. Participating in these types of events is really a good improvement in your research that leads to discuss your views among experts from various domains. This discussion gives a wide scope to solve limitations in your research area and it will give a motivation to develop modern techniques to enhance your results.

I really appreciate the college Management, Principal of St. Peter's Engineering College for their commitment to conduct such a large technical event. I also ensure that my suggestions and support will be always with you during conduction of such useful events to the all the faculty, researchers.

I also congratulate the participants who got an opportunity to participate in this event, and I wish your work will be awarded with good publication proceedings.

In this regard, I welcome all the participants of this event to have a great time to learn new things, and to share your views on various research fields.

Dr. M. Siva Ganga Prasad

K LU (Deemed to be University)

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WELCOME MESSAGE

Dear Colleagues and Participants,

Allow me to warmly thank the organizers of this important Conference for giving me the privilege of welcoming and addressing you all. For me it is an honour and a pleasure.

I would also like to thank them for having brought us together to discuss on the current technological challenges worldwide.

As a Continuous Researcher, Academician, and as a professor, I am sincerely appreciating the Management, Principal of St. Peters Engineering College, Hyderabad and the conveners for conducting such a huge technical event: International Conference on "SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING" on 18th and 19th June 2021.

I congratulate the entire organizing team of this conference for their dedication in work to make this event successful in this tough times. The team interacted not only with me , but also with Professors from Reputed Institutions IIT and NITs, Researchers and Industrialists for their great suggestions and also for reviewing to opt quality papers to the conference.

The conference experts committee comprised of various academicians and researchers 0f different fields, reviewed various papers received from all over the worldand selected 101 papers to participate in this event. I heartfully congratulate the participants of the conference to grab an opportunity to share your research ideas among various experts around the globe.

Beatrice Seventline J,

Professor-HOD,

Department of Electrical, Electronics and Communication Engineering,

GITAM Institute of Technology,

Visakhapatnam campus.

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CHAIRMAN MESSAGE

Sri. T. Bala Reddy
Chairman
St. Peter's Engineering College, Hyderabad.

It gives me immense pleasure to welcome you all to the International Conference on SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING (ICSPEC 2021), The main aim of the conference is to bring together innovative academicians and industrial experts in all fields of Engineering and sciences, and also to provide a common forum for the dissemination and sharing of knowledge, information and experience among the researchers, developers, scientists, students, practitioners working all over the world. I strongly hope that this event will provide a unique opportunity for all the stake holders like young researchers, academicians, Industrialists to network with peers and share their thoughts for enhancing their skill sets.

I understand about 101 outstanding articles on novel theoretical results and applications of engineering, sciences and social sciences are received from all over the globe. The papers are accepted for presentations and further extension of quality papers can be forwarded to **Scopus and ESCI** indexing journals based on the authors' interest. I would like to thank the authors for their interest, their cooperation, but most of all, their outstanding contributions which are reflected so well. I strongly feel that this would not have been possible without the supporting team and Advisors, reviewers, whose comments and timely assistance assured the quality and the publication of the material; I also thank them. I convey my best wishes for the event organizers of ICSPEC 2021, peers and other stake holders who are associated with this conference at St. Peter's Engineering College. I wish all delegates a pleasant and fruitful stay in our eco-friendly green lush campus. I also wish the conference a grand success.

Chairman

St. Peter's Engineering College, Hyderabad

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SECRETARY MESSAGE

Sri. T. Vijaypal Reddy
Secretary & Correspondent
St. Peter's Engineering College, Hyderabad.

It's my privilege to welcome you all to the great technical event "International Conference on SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING (ICSPEC 2021) in June 18, 19 2021. I am indeed happy to note that there is overwhelming response from academic community to participate and deliberate on the issues related to the proposed topic. About 101 researchers have submitted their papers to share their thoughts with other participants across the India.

The conference is aimed and focused to bring together researchers, scholars and practitioners to exchange and share their experiences and results in all the allied areas of Engineering, Sciences. I hope and expect you have a wonderful time and that you are able to strengthen your personal and professional networks. It is up to you as participants to make this a perfect conference in content.

I congratulate the Principal and organizers who put many efforts in organizing this conference and creating the conditions for such wonderful event.

Secretary &
Correspondent

St. Peter's Engineering College, Hyderabad.

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PRINCIPAL MESSAGE

Dr. K. Sreelatha,
Principal,
St. Peter's Engineering College, Hyderabad.

I am gratified that very prestigious Event International Conference on SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING (ICSPEC 2021) aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results about all aspects of engineering systems, new trends in technologies, Sciences.

It also provides the premier interdisciplinary and multidisciplinary forum for researchers, practitioners and educators to present and discuss the most recent innovations, trends and concerns, practical challenges encountered and the solutions adopted in the field of signal processing and communication engineering systems.

I congratulate all the organizers of the International Conference, ICSPEC-2021 and like to thank all the speakers for presenting their specialized papers in the technical sessions and enriching the discussion with their vast experience.

I am sure that the ICSPEC-2021 would prioritize the recommendations of the conference and implement the goods effectively to help technocrats in the country.

Principal

St. Peter's Engineering College, Hyderabad.

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MESSAGE FROM CONVENER(S)

We are delighted to welcome all the participants of ICSPEC 2021 organized at St. Peter's Engineering College, Hyderabad. The main goal of organizing this conference is to share and enhance the knowledge of each and every individual in this technological world. We have given a good opportunity for those who have a thirst in knowing the present technological developments and also share their ideas. Furthermore, this conference will also facilitate the participants to expose and share various novel ideas.

The conference aims to bridge the researchers working in academia and other professionals through research presentations in current technological trends. It reflects the growing importance of technologies in all the major fields of research and practice. We wish participants will get ample opportunities to widen their knowledge and network.

Such a large multi-disciplinary conference event is the culmination of many individuals. We thank the Management, Principal and all the head of the departments, members of various conference committee for extending their valuable time in organizing the program. We also congratulate and appreciate all the authors, reviewers, and other contributors for their sparkling efforts and their belief in the excellence of ICSPEC 2021.

Convener(s):

Dr. I. Sharath Chandra,
Associate Professor
HOD-ECE,
St. Peter's Engineering College.

Dr. N. Srikanth,
Associate Professor,
Dept. of ECE,
St. Peter's Engineering College.

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INTERNATIONAL CONFERENCE ON SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING

ORGANISING COMMITTEE

Chief Patron:

Mr. T. Bala Reddy, Chairman, St. Peter's Engineering College, Hyderabad.

Patrons:

Mr. T. V. Reddy, Secretary, St. Peter's Engineering College, Hyderabad.

Conference Chair:

Dr. K. Sreelatha, Principal, St. Peter's Engineering College, Hyderabad.

Conference Conveners:

1. **Dr. I. Sharath Chandra, HoD, Dept. of ECE.**
2. **Dr. N. Srikanth, Assoc. Prof, Dept of ECE.**

Co-Conveners:

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3. **Dr. A. Anjaiah, Asst. Professor, CSE.**
4. **Mr. Shaik Ansari, Asst. Professor, EEE.**
5. **Mr. Mirza Nayeem Asst. Professor, CIVIL.**
6. **Mr. M. Vinod Kumar Reddy Asst. Professor, MECH.**
7. **Dr. R. Lakshmi, HOD, S & H.**

Steering Committie:

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2. **Dr. K. Sateesh Kumar, HOD,IT.**
3. **Dr. M. Dilip kumar, HOD,EEE.**
4. **Dr. M. Harinatha Reddy HOD, Mech.**
5. **Dr. K. Radhika. HOD, Civil.**
6. **Dr. M. Saritha HOD, S&H.**

Organizing Committee:

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Mr. G. Vasanth. Asst. Professor, ECE
Mr. Mahesh, Assistant Professor, CIVIL
Mr. K. Divakar Assistant Professor, MECH
Mr. Ch. V . Ganesh, Assistant Professor, EEE
Mrs. P. Nethrasri, Assistant Professor, CSE
Mr. T.R.P Mukharjee. Assistant Professor, S&H

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INTERNATIONAL CONFERENCE ON SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING (ICSPEC 2021)

Program Schedule

Friday 18-06-2021 (Day – 1)

- **Inauguration 10:00 AM – 10:45 AM**
  - Inviting Dignitaries to Dias
  - Jyothi Prejwalana & Prayer song
  - Welcome note by Conference Chair
  - Addressing by Technical Program Chair
  - Addressing by Principal
  - Addressing by Secretary
  - Introduction of Chief Guest
  - Addressing by Chief Guest
  - Conference Proceedings Release by Chief Guest
  - Memento Presentation to Chief Guest
- **Keynote Speech – 10: 45 AM – 11:30 AM**
- **High Tea - 11:30 AM - 11:45 AM**
- **Sessions –I – 11:45 AM – 1.00 PM**
- **LUNCH – 1.00 PM – 2.00 PM**
- **Sessions –II – 2:00 PM – 3:15 PM**
- **High Tea - 3:15 pm - 3:30 pm**
- **Sessions –II Continues up to 5PM.**

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INTERNATIONAL CONFERENCE ON SPECTACULAR PROGRESSIVE IMPROVEMENTS IN ENGINEERING SCIENCES & COMPUTING (ICSPEC 2021)

Program Schedule

Saturday 19-06-2021 (Day – 2)

- **Sessions –III – 9:30 AM – 1:00 PM**
- **High Tea - 11:00 am - 11:15 am**
- **Lunch – 1.00 pm – 2.00 pm**
- **Sessions –IV – 2:00 pm – 3:15 pm**
- **High Tea - 3:15 pm - 3:30 pm**
- **Valedictory – 3:30 pm – 5:00 pm**
- **Inviting Dignitaries to Dias**
- **Observations by Conference Chair**
- **Feedback by participants**
- **Addressing by Guests Certificate Distribution**
- **VOTE OF THANKS**
- **NATIONAL ANTHEM**

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ANALYSIS OF CREDIT CARD FRAUD DETECTION USING RANDOM FOREST METHOD IN MACHINE LEARNING ALGORITHMS

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ABSTRACT:
The exceptional growth in the number of credit card transactions, especially for online purchases, has recently led to a substantial rise in fraudulent activities. Credit card security is a major concern for any business establishment. With that in mind, it is hard to identify the credit card fraud. Implementation of efficient fraud detection systems has thus become imperative for all credit card issuing banks to minimize their losses. In real life, fraudulent transactions are disperse with genuine transactions and simple method matching is not often sufficient to detect them accurately. This paper proposes a credit card fraud detection technology based on Machine Learning algorithm aiming at solving the problem so fraudulent transaction. Technically this approach reduces the chances of card fraud by exponential measure. The results show that the accuracy of Random Forest, Support Vector Machine and KNN classifiers achieves respectively 94.84%, 89.46%. Otherwise, Random Forest is very fast for predicting new fraudulent transactions.
Keywords: *Credit Card Fraud, Machine Learning algorithm, Fraud detection.*

ICSPEC502

CLASSIFICATION AND PREDICTION OF PCOD USING DEEP LEARNING TECHNIQUES- A SURVEY

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ABSTRACT:
Polycystic Ovarian Disease (PCOD) also known as Polycystic Ovary syndrome (PCOS) is a very common condition affecting 5% to 10% of women in the age group 12–45 years. PCOS is a "syndrome," or group of symptoms that affects the ovaries and ovulation. Obesity is a major cause of insulin resistance. Both obesity and insulin resistance can increase your risk for type 2 diabetes. The progression of Deep Learning contributes to aid in the decision- making process of experts to diagnose patients with PCOD. Combining structured and text data, the accuracy rate can reach high. Screening data is developed to reduce over-diagnosis and improve the early identification of PCOD. Convolutional neural network has been the leading method for the classification and prediction of PCOD using deep learning. Depending on how high they recognize the object boundaries in the image and identifying the right region of the follicle, the risk severity of the patient cannot reveal. In this paper, a literature survey on the Polycystic Ovarian Disease by using Medical Image Processing and Deep Learning techniques has presented.
***Keywords*:** *Polycystic Ovarian Disease, Medical Image Processing, Deep learning techniques.*

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ICSPEC503

AN EXPERIMENTAL APPROACH FOR V2V CORRESPONDENCE ON STREET-UTILIZING LORA

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ABSTRACT:

This paper presents the precise application of wireless communication, Automotive Wireless Communication also called as Vehicle-to-Vehicle Communication. The paper first gives an introduction to the Automotive Wireless Communication. It explains the technology used for Automotive Wireless Communication alongside the varied automotive applications counting on wireless communication. Vehicle-to-Vehicle communication is that the wireless transmission of knowledge between automobiles during a real time. the most aim of V2V communication is to stop accidents by allowing vehicles in transit to send position and speed data to at least one another. The vehicle's driver may simply receive a warning should there be a risk of an accident or the vehicle itself may take preventive actions as braking to hamper.

Keywords: *V2V, LoRa,Node MCU, wireless communication*

ICSPEC 504

LATEST TRENDS IN DATA MINING

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ABSTRACT:

Data mining is a field of combination of computer science and statistics used to find patterns in the information bank. The main aim of the data mining process is to extract the useful information from the large set of any data and mold it into an understandable structure for future use. It implies analyzing data patterns in large batches of data using one or more software. Data mining involves effective data collection and warehousing as well as computer processing. Data mining is the process of discovering patterns in large data sets involving methods at the intersection of machine learning, statistics, and database systems. Its popularity is caused by an increased demand for tools that help with the analysis and understanding of huge amounts of data. Such data are generated on a daily basis by institutions like banks, insurance companies, retail stores, and on the Internet. This explosion came into being through the ever increasing use of computers, scanners, digital cameras, bar codes, etc. We are in a situation when rich sources of data, stored in databases, warehouses, and other data repositories, are readily available. This in turn causes big interest of business and industrial communities in the field of Data Mining and Knowledge Discovery. What is needed is a clear and simple methodology for extracting the knowledge that is hidden in the data. Based on the emerging technologies like XML, PMML, SOAP, UDDI, and OLE BD-DM is introduced. These technologies help designing flexible, semi-automated, and easy to use Data Mining and Knowledge Discovery model. They enable the building of knowledge repositories. They allow for communication between several data mining tools, databases and knowledge repositories. They also enable integration and automation of Data Mining and Knowledge Discovery tasks.

Keywords: Data mining, computer processing, machine learning, database systems

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ICSPEC505

AN EMPIRICAL STUDY ON ANALYSIS AND DESIGN PHASES OF SOA METHODOLOGIES IN DATA MINING FOR WEB SERVICE BASED APPLICATIONS

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Abstract—Web Service is the technology that is related to the concept of Service-Oriented Architecture. SOA has transformed the way professional initiatives get united with technology with a very fast pace care the request of readjustment time very short. As a consequence, new methodologies that address all the principles and patterns of SOA are required to ensure effective SOA application development. We also contemplate that SOA is a clarification which can make straight the expertise with business purposes. In count to associate large scale, self-sufficient systems, the service-oriented approach offers several assistances such as reusability, self-regulating development and disposition, platform independence, transparency and litheness, to the care services of planning and accomplishment in these systems. Services are given importance rather than individual applications of different companies are integrated to have a seamless service to be rendered to end users. A SOA is essentially a collection of services. The communication can contain either modest data passing or it could involve two or more facilities directing some activity. Web Services values to sustenance a wide variability of communications patterns over numerous transport protocols and deliver value added competences for SOA applications. This paper aims to determine the notions of SOA in order to give better perception of expertise and this paper search different type of methods and practices based services.

Keywords: Data Mining, SOA, Web Services, Application and Service integration.

ICSPEC506

SENTIMENTAL ANALYZER USING MACHINE LEARNING

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ABSTRACT -Sentiment analysis, Conclusion investigation or assessment mining is the computational investigation of individuals' suppositions, opinions, perspectives, and feelings communicated in composed language. It is quite possibly the most dynamic exploration zones in regular language handling and text mining as of late. Its prevalence is fundamentally because of two reasons. To start with, it has a wide scope of uses since conclusions are fundamental to practically all human exercises and are key influencers of our practices. At whatever point we need to choose, we need to get others' thoughts. Second, it presents many testing research issues, which had never been endeavored the year 2000. Part of the justification the absence of study before was that there was minimal obstinate content in advanced structures. It is in this manner nothing unexpected that the commencement and the quick development of the field match with those of the web-based media on the Web. Truth be told, the exploration has additionally spread outside of software engineering to the executive's sciences and sociologies because of its significance to business and society overall. In this discussion, I will begin with the conversation of the standard supposition investigation examination and afterward proceed onward to portray some new work on displaying remarks, conversations, and discussions, which addresses another sort of examination of assumptions and assessments.

Keywords : Sentimentanalysis, customerservice, machine learning library**.**

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ICSPEC507

RECENT ADVANCES IN CONVOLUTIONAL NEURAL NETWORK- A DEEP LEARNING APPROACHCNN-DL

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ABSTRACT : Deep learning has become a area of important to the specialists in the previous few years. Convolutional Neural Network (CNN) is a profound learning approach that is broadly utilized for taking care of complex issues. AI is essential for Artificial Intelligence, in which we give information to the machine so it can take in design from the information and it will actually want to foresee answer for comparative future issues. Neural Network (NN) is motivated by neural organization of the human cerebrum. PC Vision is a field of Artificial Intelligence which centers around issues identified with pictures. CNN joined with Computer Vision is equipped for performing complex tasks going from grouping pictures to tackling logical issues of picture organization, object finding, object track, object estimation, text detection & recognition, visual salience detectrion, action recognition,scene labeling, speech & natural languageprocessing.

Keywords : Convolution Neural Network(ConvNet), Deep Neural Network, Image Classification, Computer vision, Convolutional layers, Pooling layers, Fully connected layers.

ICSPEC508

A RESEARCH DEVELOPMENT OF INTERNET OF THINGS (IOT) AND ITS SIGNIFICANT IMPACT IN THE FIELD OF SMART FARMING

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ABSTRACT - efficient agriculture is an rising concept, because IOT sensors are capable of providing information about agriculture fields and then act ahead based on the user contribution. The characteristic of this paper includes development of a system which can keep an eye on temperature, level of water, moisture and even the pressure group if any happens in the field which may demolish the crops in agricultural field through sensors using Arduino UNO board. Smart agriculture is an rising concept, because IOT sensors are capable of providing information about agriculture fields and then act upon based on the user input. The project aims at making use of evolving technology i.e. IOT and smart agriculture using automation. Once hardware has been developed depending on the change in requirements and technology the software needs the updating. The updated hardware is called new version of the software. This new version is required to be tested in order to ensure changes that are made in the old version work precisely and it will not bring bugs in other part of the software. This is necessary because updating in one part of the hardware may bring some undesirable effects in other part of the hardware.

Keywords: Internet of Things (IOT), Smart Agriculture using IOT, Arduino, Soil Moisture Sensor.

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ICSPEC509

GLOBALIZING COMPASSIONATE HEALTHCARE

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ABSTRACT: The main aim of this paper is to provide valuable health care services to the people who are unable to access the health issues. Big data is one of the key pillars in the digitalization of the world. There is huge amount of data being generated from different hospitals, handling this amount of data using relative database system is very difficult. This is the place where big data comes to the rescue. There are many NGO's or healthcare organizations in the world who are trying to provide various services to the people. But they need information of people who are suffering in order to provide services. Where do they get the information? This is where big data comes into the picture. Big data offers solutions to achieve different disease patterns in different parts of the world. We should ensure a process for the collection of data and processing of the data. This paper basically provides a process for providing compassionate healthcare services to the people by using Machine Learning.
Keywords: Healthcare, Diagnostic centre, Medical Research Centre, Medical Report.

ICSPEC510

IMPLEMENTING CLIENT-SIDE ENCRYPTION FOR ENFORCING DATA PRIVACY ON THE WEB USING SYMMETRIC CRYPTOGRAPHY: A RESEARCH PAPER

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ABSTRACT: The Internet provides remote access to resources such as storage and computation available worldwide. The virtual interaction of people on the Internet makes it difficult to recognize the identity of a person. In addition, the open network structure of the Internet might allow third parties to read and change data in a communication over the network. Hence, every organization must maintain the integrity of data by preventing unauthorized modification. To secure confidential information on the Internet, one must put into practice necessary security measures. Cryptography is a technique that helps to reduce security risks to the confidentiality and integrity of the data on the Internet. Moreover, the encryption of confidential data can be done either at the client machine (web client) or on the server (web server). The side (client/server) at which the encryption has to take place is decided based on the confidentiality of data to be protected. As the data in Level1 is both confidential and important, it must be encrypted at the client side itself before their migration onto the web. Whereas data in Level 2 can be encrypted after their migration since the criticality of data in Level 2 is less compared to that of Level1. In this paper, the authors have identified some of the Symmetric Cryptographic algorithms with the help of which Client-Side encryption of data can be achieved for enforcing data privacy on the web. They have also proposed an extended symmetric algorithm using which Searchable Encryption is possible on the encrypted data stored in a remote server.
Keywords- Security Risks; Confidentiality; Cryptography; Symmetric Cryptography; Client-side Encryption; Searchable Encryption

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ICSPEC511

FACEMASK DETECTION USING TENSORFLOW

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ABSTRACT : COVID-19 pandemic has rapidly affected our day-to-day life disrupting the world trade and movements. Wearing a protective face mask has become a new normal. In the near future, many public service providers will ask the customers to wear masks correctly to avail of their services. Therefore, face mask detection has become a crucial task to help global society. This paper presents a simplified approach to achieve this purpose using some basic Machine Learning packages like TensorFlow, Keras, OpenCV and Scikit-Learn. The proposed method detects the face from the image correctly and then identifies if it has a mask on it or not. As a surveillance task performer, it can also detect a face along with a mask in a motion. This method attains accuracy that varies. We explore optimized values of parameters using the Sequential Convolution Neural Network model to detect the presence of masks correctly without causing over-fitting.
Keywords-Coronavirus, Covid-19, Machine Learning, Face Mask Detection, Convolution

ICSPEC512

SOLAR OPERATED WEED CUTTING ROBOT

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ABSTRACT: The paper aims at designing of weed cutting robot which tends the unwanted plant cutter motor running through solar energy mechanism. The "Solar Powered Weed Cutting Machine" is a robotic vehicle powered by solar energy that acts as a barrier and is capable of automated weed cutting. This system includes 12V battery to power the vehicle movement motors as well as the grass cutter motor and is advantageous as it reduces the manpower and usage of electricity. Solar plate is employed to provide the source to charge the battery. The source is driven from the solar power byusing solar plate. Wheels and cutting operations are run using dc motors. DC battery is utilized for powering and standby mode operation of the system and the whole supply is provided through the battery and to charge the battery charger circuit .This is used to energize the battery.
Keywords : weed cutting robot, solar energy, Solar plate.

ICSPEC513

INTELLIGENT WORKLOAD ANALYZER (IWA) IN CLOUD

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ABSTRACT: In most of the cloud environments we generally use the load balancers to balance the http requests to be forwarded to the available underlying live nodes. So that the http request is processed by the respected Web/Application server and immediately responds back to the client. In this case if any of the server is heavily loaded, the load balancer does not aware of the load what is exactly happening at the web/application server and due to this, server may go into crash mode. IWA is a dedicated component/service will continuously record the statistics (CPU,Memory,Network,Disk) about the servers which are behind the load balancer and will decide the next subsequent request to be forwarded or not.
Keywords: Balancers, http requests, Web/Application server.

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ICSPEC514

WEB APPLICATION SECURITY:SQL INJECTION ATTACK IMPLEMENTING AND DEFENDING IN REAL TIME

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ABSTRACT: At the outset of the Internet, one of the most common attack methods was basic, simple brute force. Bots or individuals performs brute force attack by trying zillions of combinations of usernames and passwords until they found one that gains the access to target application. But now it is no longer threat, due to limited login attempts, password policies and captchas. But cybercriminals discover new exploits and to use them to perform new types of attacks. Injection attacks are one of them which are highly dense at harming confidential information of server. SQL injection attack is one of minacious attacks pinned. This paper discusses how SQL Injection attack will be performed in Real time on a web application with help of SQL Queries and also explains how to write queries in secured way to to defend SQL injection attack.

Keywords: Injection attacks, Types, brute force, Defending Techniques.

ICSPEC515

EXPLOITING OPINIONS FOR MULTI-CRITERIA COLLABORATIVE FILTERING USING DEEP LEARNING TECHNIQUES

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ABSTRACT: Recommender systems producing personalised predictions help the users to solve the information overloads problem. They are widely used in various online businesses such as shopping, music, movies, travel, restaurant, social media, articles etc., Mostly recommendation systems rely on numerical ratings for predicting the user preferences. But, in certain cases where only user text reviews are available it is necessary to predict rating from the reviews to enable the recommendation. Another issue with the existing recommendation approaches is that they rely on a singlecriterion rating or overall rating as a primary source for the recommendation process. Since the overall rating cannot express fine grained analysis behind the user's behaviour it is not sufficient to gain high accuracy of the recommendations. To solve the above issues the proposed work uses deep learning techniques in order to predict rating from reviews and perform the recommendation using multi criteria ratings. The proposed work consists of two phases, where in phase 1 the numerical rating is obtained from the opinion of user reviews on the items using multiclass SVM model. Accordingly, the item ratings are updated in the user-item dataset. The phase 2 uses the updated dataset where matrix factorization is used to predict the different criteria ratings and deep neural network is used to predict the overall rating of the item.

Keywords: Matrix factorization, Deep neural network, Multiclass SVM, Multi-criteria, Recommender system

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ICSPEC516

SORTING USING MULTIPLE BINARY SEARCH TREES

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ABSTRACT: Sorting is a process of arranging data in a specific order according to requirements of Application. In complex software applications, sorting plays a major role to reduce searching time complexity of data items. Efficient sorting brings orderliness in the data. Many sorting methods are developed. Each method has its own advantages and disadvantages. Often a designer or developer is puzzled as to which method is best and efficient. The efficiency could be measured in terms of memory usage, time taken to sort, cpu usage etc. In this paper an efficient sorting algorithm called as Sorting using Multiple Binary Search Trees is proposed. I followed the various stages of Software Development Life Cycle to demonstrate the proposed sorting algorithm. Section 1 will give introduction about proposed sorting algorithm. In section 2, proposed Algorithm is Designed. In section 3, proposed algorithm is Implemented using C programming Language. In section 4, we will test the implementation of proposed algorithm using different test cases. In section 5, we conclude the proposed Algorithm.

Keywords : Sorting, Binary Search Tree, Unordered Input list, merged Output Sorted list.

ICSPEC517

SECURITY CONCERNS IN ROUTING ANDROID DEVICE AND CHANGING ROM

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ABSTRACT : Routing is the way toward permitting clients of cell phones, tablets and different gadgets running the Android portable working framework to achieve advantaged control (known as root access) over different Android subsystems. As Android gadget gives comparative access to regulatory (superuser) authorizations as on Linux or some other Unix-like working framework, for example, Free BSD or macOS. And also Custom ROMs are perhaps the best thing about Android! In case you're prepared to discard your stock ROM and receive the numerous rewards of stacking a custom ROM, for example, improved battery, better execution, and updates to the most recent Android forms.

Keywords : Routing, Android gadget, FreeBSD or macOS, ROM

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ICSPEC518

IOT- EMPOWERED SMART IRRIGATION TECHNIQUE FOR COCONUT FARMS DEPENDING ON WEATHER, SOIL, AND WATER CONDITIONS IN PRECISION AGRICULTURE MECHANISMS

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ABSTRACT— In recent years, sustainable agriculture is a mechanism that automates the entire agriculture process to manage land production, generate revenues, and reduce environmental effects. To obtain real-time coconut farm information by multi-point calculation, this paper uses the internet of things (IoT), which includes a soil water quality sensor, an environmental temperature sensor, a soil temperature measuring device, an environmental humidity sensing device, soil nutrient sensor, a daylight intensity device (light based resistor) and a CO2 sensor. Both standalone IoT-enabled sensors used for proper data acquisition and storing of agriculture information are included in the work observation. The coconut farm's history (data set) has already been saved for generating required action in the coconut farming process. The research outlines the most efficient use of irrigation for coconut farms through precise water control and the use of a neural network to preserve the necessary level of nutrition in the soil. Automatic Irrigation Systems (AIS) are irrigation systems that are regulated by sensors that measure temperature, humidity, and soil moisture. The proposed scheme employs a water and soil nutrient level balancing mechanism based on structural similarities (SSIM), which is used to identify coconut farm regions with water and soil nutrient deficit. Finally, SSIM index-based soil water and nutrient deficiency is estimated to keep nutrient levels and water requirements consistent over the entire coconut farm region.

Keywords : Automatic Irrigation System (AIS), Internet of Things (IoT), Structural Similarities (SSIM), Sensor, Neural Network

ICSPEC519

FACE DETECTION USING MACHINE LEARNING

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ABSTRACT: Facial recognition has always gone through a consistent research area due to its non-modeling nature and its diverse applications. As a result, day-to-day activities are increasingly being carried out electronically rather than in pencil and paper. Today, computer vision is a comprehensive field that deals with a high level of programming by feeding the input images/videos to automatically perform tasks such as detection, recognition and classification. Even with deep learning techniques, they are better than the normal human visual system. In this project, we developed a facial recognition system based on the Local Binary Pattern Histogram (LBPH) method to treat the real-time recognition of the human face in the low and high-level images. We aspire to maximize the variation that is relevant to facial expression and open edges so to sort of encode edges in a very cheap way. These highly successful features are called the Local Binary Pattern Histogram (LBPH)

Keywords: Face recognition; feature extraction; Local Binary Pattern Histogram (LBPH).

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ICSPEC520

VIRTUAL GRIEVANCE CELL

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Abstract: A grievance is a dissatisfaction or discourse which could emerge at any level in any organization. If the organization is an academic institution, then this issue becomes more susceptible and important. Students are the most vulnerable entities at educational institutions often fail to express and sometimes fail to seek proper support for the issues they face arising at numerous levels. The above-mentioned problem as a supposition, a prototype of grievance redressal has been worked out which could comply well with the solution provision for the arising conflicts for students. In this paper, we focus on the development and the execution of the above-mentioned prototype which could be incorporated to adhere to the grievance redressal for students. This paper focus on incorporating all those problem areas which were found on the basis of the analysis phase plus some additional necessary areas. Moreover, considering the nature of and the severity of the grievances, the due inquiry is made by the members of the cell, followed by giving punishment if anyone is found guilty.
Key Words- Grievance redressal system (GRS), vulnerable, victims, organization

ICSPEC521

SENTIMENTAL ANALYZER USING MACHINE LEARNING

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ABSTRACT -Sentiment analysis, Conclusion investigation or assessment mining is the computational investigation of individuals' suppositions, opinions, perspectives, and feelings communicated in composed language. It is quite possibly the most dynamic exploration zones in regular language handling and text mining as of late. Its prevalence is fundamentally because of two reasons. To start with, it has a wide scope of uses since conclusions are fundamental to practically all human exercises and are key influencers of our practices. At whatever point we need to choose, we need to get others' thoughts. Second, it presents many testing research issues, which had never been endeavored the year 2000. Part of the justification the absence of study before was that there was minimal obstinate content in advanced structures. It is in this manner nothing unexpected that the commencement and the quick development of the field match with those of the web-based media on the Web. Truth be told, the exploration has additionally spread outside of software engineering to the executive's sciences and sociologies because of its significance to business and society overall. In this discussion, I will begin with the conversation of the standard supposition investigation examination and afterward proceed onward to portray some new work on displaying remarks, conversations, and discussions, which addresses another sort of examination of assumptions and assessments.
Keywords : Sentimentanalysis, customerservice, machine learning library.

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ICSPEC522

EMERGING TRENDS IN WEBINARS: FINDING LEARNERS EVALUATION AND ASSESSMENT USING REGRESSION ANALYSIS MODELS

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ABSTRACT

Nowadays in higher education platforms, the teaching methodology has been improved from an offline teaching environment into an online teaching environment. Mostly in all Universities, Research Departments, Colleges, and institutes conduct webinars/seminars/ conferences/workshops/classes in online mode only. Due to COVID – 19 in the pandemic situation the teaching/learning methods were, only online and all the seminars/conferences/workshops/classes were conducted online. Even though it is easy to conduct the webinars through the developed information technology, the delivering technique is easy to implement but the learner's evaluation is not to be easily identified. Finding the learner's ability and their understanding of the particular webinar is to be evaluated, of knowing the ability of the learner in the particular topic, and for prediction and data analysis, Regression techniques deliver the best results. For finding the learner's evaluation and assessment, the data is taken from the webinars dataset, and the participant's or learners' level of evaluation is performed using the right regression. Choosing the right Regression algorithm for the right dataset is the primary step, selecting the wrong algorithm for analysis, may cause Overfitting, Underfitting, multicollinearity, and inaccurate results. In this paper, we made a comparison of Regression algorithms with their metrics values and the best algorithm is identified for data analysis and prediction, which produce the most accurate results.

Keywords: *Regression, Machine Learning, Logistic, Linear, Elasticnet,*

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ICSPEC523

CLOUD TASK SCHEDULING USING K-MEANS CLUSTERING ON LOAD BALANCING

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Abstract

In the present era, cloud computing has earned much popularity, mainly because of its utilities and relevance with the current technological trends. It is an arrangement which is highly customizable and encapsulated for providing better computational services to its clients worldwide. In cloud computing, scheduling plays a pivotal role in the optimal utilization of resources. Prevalent priority based job scheduling strategies are silent in deciding scheduling scheme for tasks with the same priority and strive hard in appropriately allocating jobs to virtual machines. In the recent years, despite of much research in this field, these scheduling algorithms are unable to provide optimal solution and are lacking in one way or the other in their performance and efficiency. Work pertaining to the use of four criteria/credits for deciding priority, with modified K-means clustering technique is scant. Therefore, to eliminate the drawbacks of the prevalent or existing system and to enhance the performance and efficiency of cloud computing, a new credits based scheduling algorithm has been rendered. The proposed system considers four real time parameters/factors namely Task-Length, Task-Priority, Deadline and Cost, as credits and uses Modified K-means Clustering technique for categorizing the cloudlets and virtual machines (VMs). Results indicate that the suggested scheduling algorithm has excelled existing priority-based scheduling strategy and it has been empirically proven with experimental/simulated results in this paper. CloudSim 3.0.3, a Cloud Simulation Tool has been used to implement and test the proposed algorithm.

Keywords : Priority Based Scheduling, Multiple Credits Based Scheduling, Scheduling Strategies in Cloud Computing, Modified K-Means, Categorization of Virtual Machines.

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ICSPEC524

REVIEW BASED ONLINE COURSE AND BOOK RECOMMENDER SYSTEM

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Abstract: Online courses have brought a huge transformation in the learning journey of students by providing a greater flexibility and convenience in their learning process. There are lots of online course providers that offer free as well as paid courses on various domains. It is difficult to determine the quality of a course only with the overall ratings given in the online course websites and thus it becomes essential to analyze the course reviews. Generally, there are numerous reviews given by the course learners for a course. Thus, it obviously becomes an arduous task for the people to look through all the reviews for their desired online courses offered by different course providers an d decide the best one for pursuing a course. Moreover it is important to consider equal number of reviews from different course websites for a particular course in order to justify the accuracy of the comparison of the quality of a course offered by various course providers. So, Sentiment Analysis (SA) is being performed on the course reviews collected from different online course websites in order to determine the sentiment polarity of these reviews with the help of Long Short Term Memory (LSTM), which is a Deep Learning (DL) Recurrent Neural Network (RNN) model. LSTM has the ability to retain useful information for a longer time and thus it is highly suitable for sentiment analysis of sequential data since the meaning and context of a word depends on the words that preceded it. Thus, people would get to know the best online course websites for each course with the help of LSTM model-based recommendations and the model has achieved an accuracy of 91.50, indicating that the provided recommendations are highly accurate. The online course learners would also certainly be interested in enhancing their knowledge and skills on a particular course either after completing it or during the course interval. The books related to each course is recommended to them for which content-based filtering approach using cosine similarity is being used.

Keywords: Recommender system, Sentiment Analysis (SA), Long Short Term Memory (LSTM), Deep Learning (DL), Recurrent Neural Network (RNN),Content-based approach

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ICSPEC525

ASTROLOGICAL PREDICTION FOR GOVERNMENT JOB USING CLASSIFICATION TECHNIQUES BY MACHINE LEARNING

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ABSTRACT: Astrology is a best prediction technique that works on the birth chart by the human's Date of birth, Time of birth and place of birth that helps to indicate the position of planet. Astrology based applications are a good examples of classification techniques .In this paper we utilized these information to predict the possibility of person to getting the government Job. For this work we collect the information of 100 person in which 50 person are government officer and remaining are non-government employee. By the machine learning tool we calculate the result of different classification techniques, compare between them and find the accuracy.
Key words: Work life balance, stress, work from home, work life and personal life.

ICSPEC526

A CASE STUDY ON GENDER PERCEPTIONS TOWARDS WORK LIFE BALANCE DURING COVID-19 WITH RESPECT TO THE TEACHING FACULTY IN ENGINEERING COLLEGES AT HYDERABAD

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ABSTRACT: Covid-19 situation open the many changes in teaching process in the educational institutions. The faculty who working these institutions face different challenges. In this situation this study relevant to understand is there any gender differences among the faculties in engineering colleges towards work life balance. For this 400 respondents were collected across the city by using convenience sampling method and online questionnaire having 25 statements which are explained the work life balance. In this study researcher find out female employees are more satisfied than male employees in their work life balance.
Key words: Work life balance, stress, work from home, work life and personal life.

ICSPEC527

IOT: ISSUES AND CHALLENGES

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ABSTRACT— The Internet of Things is a set of embedded technologies that contain physical objects and are used to communicate with and interact with internal states or external environments. IoT prioritizes machine-to-machine communication, rather than communication to the public. This paper uncovers the state of IoT growth in India and also addresses the challenges of security issues. Finally, this paper reviews the risk factor, security issues and challenges from an Indian perspective.
Keywords : Internet of Things (IoT), Challenges, Interoperability, Authenticity.

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ICSPEC528

AUTOMATIC LICENSE PLATE RECOGNITION USING PYTHON AND OPENCV

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ABSTRACT : Automatic License Plate Recognition system may be a real time embedded system that mechanically acknowledges the License Plate code of vehicles. There are several applications starting from complicated security systems to common areas and from parking admission to urban control. Automatic License Plate Recognition (ALPR) has complicated characteristics to numerous effects like of sunshine and speed. Most of the ALPR systems are designed exploitation proprietary tools like Matlab. This paper presents an alternate technique of implementing ALPR systems exploitation free software system as well as Python and t the Open Computer Vision Library.

Keywords- License plate, Embedded System, ALPR, Matlab,Python, Computer Vision Library

ICSPEC529

VEHICLE SPEED TRACKING USING OPENCV

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ABSTRSCT: The continuously increasing number of on-road vehicles has put a lot of pressure on road capacity and infrastructure, making traffic management difficult and giving way to problems like congestion, collisions, and air pollution, among others. These problems have significant impact on our daily lives. A robust and efficient traffic management system is required to reduce their effect. Apart from these problems related to vehicle traffic, Also, various statistical parameters, such as the average number of vehicles on the road at a certain time, and the state of congestion, can be studied, which can provide some information for managing the highway. Think about it, if we could integrate a vehicle detection system in a traffic light camera, you could easily track a number of useful things simultaneously. We can easily detect and recognize objects from complex scenes in a flash. Translating that thought process to a machine, however, requires us to learn the art of object detection using computer vision algorithms.

Keywords- on-road vehicles, traffic management, vehicle detection system.

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ICSPEC530

PLATOONING OF CONNECTED AUTOMATED VEHICLES TO REDUCE TIME COMPLEXITY VIA ROADSIDE UNIT

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ABSTRACT: Vehicle platooning is part of a suite of features that self-driving cars might employ. A platoon is a group of Connected Automated Vehicles (CAV) that can travel very closely together, safely at high speed. This paper proposes a method for the dynamic platoon is to connect CAV to Vehicle to Infrastructure (V2I) to improve the efficiency of maneuvering traffic and to provide results of V2I information which helps to reduce employable time headway in the presence of parasitic lags. A cluster of Roadside Unit (RSU) is constantly sending a message to the onboard sensor of the CAV vehicles to get a real-time update on traffic which in turn helps to avoid not related messages(spam messages), the network will verify whether the received message is from Trust Authority (TA) or not. Delay Sensitive Algorithm (DSA) is used for data transmission between RSUs and CAV. It increases the lifetime of the network and reduces the delays in the wireless network during the data transmission.

Keywords: Vehicle platooning, Connected Automated Vehicles, Trust Authority.

ICSPEC531

V / WIND PLANT /DG SET /GRID HYBRID SYSTEM FOR EDUCATIONALBUILDING FEASIBILITY ANALYSIS USING HOMER PRO SOFTWARE

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ABSTRACT: Energy is main tool to the financial development and social improvement of any nation. This prompted a lift in innovative work just as interest in the sustainable power source industry looking for approaches to satisfy power need and to diminish reliance on Fossil fuels. Wind and sunlight based power are getting mainstream because of abundance, accessibility, and straightforward bridling for electrical energy production. Major reason to swift to renewable energy generation is to reduce carbon emission. This paper going to discuss the designing Hybrid system consist of PV/Wind/DG for the building which is already having Grid supply. Four different configuration of Hybrid system (PV/Grid, PV/DG/GRID & PV/Wind/DG/Grid) are modeled using Homer Pro. Results of the three configuration meets the energy requirement of the building. i.e 487KWh/day and as well as to find the optimal capacity of renewable system. We are going to find best and cost effective configuration among four configurations which is modeled using Homerpro.

Keywords: Homer Pro, Hybrid System, Net Present Cost

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ICSPEC532

HELMET DETECTION USING MACHINE LEARNING AND LICENSE PLATE RECOGNITION

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ABSTRACT: Nowadays, road accidents are one of the major causes that leads to human death. Among them, motor bike accidents are common and causes critical injuries. Helmet is one of the main protection unit for a motor bicyclist. However, many fail to conform to the law of wearing helmet. Here, to detect the motorcyclists who are violating the helmet laws, a system using image processing and convolutional neural network is implemented. The system consist of motorbike detection , helmet vs no helmet classification and motorbike license plate recognition. The motorbikes are detected using the feature vector HOG. Once the motorbike is detected, by means of convolutional neural network, it is determined whether the motorcyclist is wearing a helmet or not. If the motorcyclist is identified without helmet, then the license plate of the motorcycle is detected using tesseract OCR. Head injuries are the leading cause of death and major trauma for two-wheel motor vehicle users. Travel on a motorcycle carries and a much higher risk of injury or death than driving a car The main safety equipment of motorcyclist is the helmet. The helmet protects the motorcyclist against accidents. Although the helmet use is mandatory in many countries, there are motorcyclists that do not use it or use it incorrectly.

Keywords: convolutional neural network, HOG, motorbike detection.

ICSPEC533

DATA SHARING IN CLOUD USING REVOCABLE-STORAGE IDENTITY-BASED ENCRYPTION

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Abstract—Cloud computing provides a secured way for data sharing, which provides various benefits for society and individuals. But in during the data accessing there possibility of data misuse, hence there should be mechanism where the data should be available for a required amount of period later it should be revoked. In this paper it is provided with the information of the data revocation solution and possible data security. In this solution the data resides with the owner who has a website where the user creates an account and later requests for the data. The admin analyses the requests and sends the link to the user with the key for data access to his/her email. The keys are created based on cipher text, user data sharing is done by the identity based encryption Cloud computing can be used for data storing and also data sharing.

Keywords: Cloud computing, data sharing, revocation, Identity-based encryption, ciphertext update, decryption key exposure.

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ICSPEC534

CUSTOMISED BLOCKCHAIN TECHNOLOGY IMPLEMENTATION FOR SECURITY AND PRIVACY OF NARROW BAND INTERNET OF THINGS

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ABSTRACT: Customised Blockchain Technology Implementation for Security and Privacy of Narrow band Internet of Things The customised and Integration of lightweight Blockchain technology-based architecture with Narrow band Internet of Things (NB IOT) is proposed to resolve all the issues of NB IOT centralized system to deliver better efficiency, enhance the transparency, reduces overhead of traditional block chain schemes and eliminate single point of failure. The Blockchain delivers better security, privacy and data integrity through tamper-proof and immutability features. In this proposal, an attempt is made to investigate how the prospect of blockchain technology addresses the information distribution in NB IoT systems and Key security requirements. A new design is developed for information distribution in NB IoT systems using blockchain and the same is presented to analyse that how existing security schemes can be made more powerful with the use of block chain technology. The proposed architecture is validated in a food Supply Chain Traceability System to highlight its effectiveness. It is demonstrated by simulation results that the proposed solution can significantly drop the packet and processing overhead when compared with traditional blockchain technology.

Keywords : Customised Block chain Technology, multi-layer secure network, NB IoT systems

ICSPEC535

A SURVEY ON PLANT LEAF DISEASE DETECTION

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ABSTRACT: Deep learning establishes a new, current procedure for image processing with accurate results. Numerous methods of deep learning and image processing are used for leaf disease detection and classification. Deep learning strategies like CNN, Fast RCNN, Faster RCNN, and Mask RCNN, and image processing techniques such as image preprocessing, segmentation, feature extraction etc. are used for disease detection. According to the study, deep learning strategy provides high accuracy than image processing technique. Plant leaf disease detection has wide range of applications available in various fields such as Biological Research and in Agriculture Institute. Agricultural productivity is something on which economy profoundly depends. This paper gives an outline of different methods that are utilized for Plant Leaf Disease Detection. It additionally covers survey on various diseases classification techniques that can be used for plant leaf disease detection. A few creators are portraying to discover leaf diseases utilizing different techniques and to suggest the different implementations.

Keywords: Leaf Disease Detection, Deep Learning, Image Processing, Feature Extraction, Convolution Neural Network.

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ICSPEC536

CLASSIFICATION OF MUSICIAN and NON-MUSICIAN USING LSTM

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Abstract: The main objective of this project is to infer musicianship of 36 participants (18 musicians and 18 non musicians) who are continuously listening to music stimuli of 3 different genres based on the hidden state vector of LSTM trained with 6 musical features extracted from musical pieces and the participant specific region of interest. The hidden state vector of dimensionality of 250 of all participants are fed as input to the MLP (Multi-Layer Perceptron) and the classification is done based on the stochastic gradient descent training algorithm. Accuracy of the model reached 62.5% and 85 % for different ROI's (Region of Interest).

Keywords: LSTM, Region of Interest, stochastic gradient descent, Multi-Layer Perceptron

ICSPEC537

MALWARE DETECTION FOR IOT (BATTLEFIELD) DEVICES USING DEEP LEARNING

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ABSTRACT: Internet of Things (IoT) in military setting by and large comprises of a differing scope of Internet-associated gadgets and hubs (for example clinical gadgets to wearable battle outfits), which are an important objective for digital hoodlums, especially state-supported or country state on-screen characters. A typical assault vector is the utilization of malware. Right now, present a profound learning based strategy to distinguish Internet Of Battlefield Things (IoBT) malware by means of the gadget's Operational Code (OpCode) arrangement. We transmute OpCodes into a vector space and apply a profound Eigenspace learning way to deal with arrange malignant and bening application. We likewise exhibit the power of our proposed approach in malware recognition and its maintainability against garbage code inclusion assaults. Finally, we make accessible our malware test on Github, which ideally will profit future research endeavors (for example for assessment of proposed malware identification draws near).

Keywords: Internet of Things (IoT), state on-screen characters, Operational Code.

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ICSPEC538

DIGITAL DIVIDE & ONLINE EDUCATION IN INDIA

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ABSTRACT: Governments in India are dealing with the question of how to take classes as physically calling students to schools has become difficult. A way to address this is the use of online classes through electronic devices. However, the digital divide existing in the country makes it difficult for everyone to adapt to this mode of education. A study in Punjab in two villages during the earlier stage of the pandemic suggested upto 20-25 percent of the parents do not have access to android mobiles to allow their children participate in classes during the lockdown. While dealing with this challenge, governments are found in a fix as any delay in conducting classes compromises the amount of syllabus to be finished on time. The aim of this study is to see if any possible recommendations can be made in terms of facilitating classes to students without any delay, and also see the remedial measures that can be taken.

Keywords: Online education, digital divide, student life and student education.

ICSPEC539

A SURVEY ON MUCORMYCOSIS

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Abstract : Mucormycosis also known as black fungus is a fungal infection, as stated by the Union Health Ministry. It is increasing rapidly as the pandemic COVID-19. The prevalence of this infection is 80% in India compared to other countries which is estimated as 0.14 cases for every 1000 people. Mucormycosis is increasing because of the usage of drugs to boost the immunity levels of people while treating other diseases like cancer, diabetes etc. Molecular methods are evolving which help in treating this fungal infection. When these molecular-based methods were applied on tissues they identified this infection. The detection methods of Mucorales DNA in blood had a good result which helped for early diagnosis & treatment in high-risk patients. Other methods like metabolomics-based breath tests are also being developed to treat this epidemiology. This paper provides updated information regarding this epidemiology & the methods to treat.

Keywords: Mucormycosis, COVID-19, Molecular methods.

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ICSPEC540

A REVIEW ON STUDENTS PERFORMANCE PREDICTION USING MACHINE LEARNING ALGORITHMS

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Abstract: In the current scenario, this is difficult to predict students' future results based on his/her current performance. As the outcome of this, the teacher can advise him/her to overcome the poor result, and also it can coach the student. By finding out the dependencies for final examinations. The system suggests to students about subject/course selection for the upcoming semester and act as roles of adviser/teacher. Due to improper advice and monitoring a lot of student's futures in dark. This is difficult for a teacher to analyze and monitors the performance of each and every student. The system can give feedback to teachers about how to improve student performance. This paper carried out a literature review from the year 2003 to 2021. The system predicts his/her future results by applying Machine Learning Algorithms like k-Nearest Neighbor (k-NN), Support Vector Machine (SVM), and Naive Bayes at an earlier stage.

Keywords -- Machine Learning Algorithm, Student Performance Prediction, k-NN, SVM.

ICSPEC541

PERSPECTIVES IN APPLYING MACHINE LEARNING AND DEEP LEARNING APPROACHES FOR DRUG DISCOVERY

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ABSTRACT : Over the last decade, artificial intelligence with machine learning and deep learning techniques has achieved remarkable success in various sectors including pharmaceutical sector. One of the most crucial and important activity that is essential to perform for human health and well-being is the new drug discovery and development process. The process of developing new drug is very time-consuming and incurs high cost. Innovative approaches are highly required with an increased collaboration among various parties like academia, pharma-industry, and government agencies. With the revolution in the computational area, artificial intelligence with machine learning and deep learning techniques has shown tremendous potential in the area of drug discovery that comprises with many activities. The paper summarizes about how artificial intelligence techniques applies effectively in various activities of drug discovery includes target selection, hit identification and validation and lead selection and optimization.

Keywords: Artificial Intelligence, Deep Learning, Drug Discovery, Machine Learning.

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ICSPEC542

AN INTEGRATED CNN-LSTM NETWORK FOR CLASSIFICATION OF PLANT SEEDLINGS

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ABSTRACT: Nowadays, Convolutional Neural Networks (CNNs) are extensively used in many applications of computer vision. It considered as the most important neural network structure mainly used for image classification, image identification, target recognition, object detection and many other fields. Employing CNNs for plant species classification is extremely useful in identifying undiscovered and scare plant species. Plants are widely distributed on the earth and existence and development of any society is almost impossible without plants on the earth. Identification and classification plant species using its images is a crucial research topic which can greatly help in the area of botany study. This research paper proposed an integrated CNN-LSTM network for plant seedlings classification. The performance of the proposed network is compared with the two state-of-the-art CNN architecture VGG16 and MobileNet. The dataset considered for the research contains 5544 images distributed among 12 different classes. The training and testing accuracy of the proposed integrated network is 93.20% and 93% respectively.

Keywords: Convolutional Neural Networks, Plant Species Classification, CNN-LSTM, VGG16, MobileNet

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ICSPEC101

MANUFACTURING OF DECORATIVE BRICKS

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ABSTRACT: The making of Decorative houses by using Decorative bricks or Tiles has gained rapid popularity in many foreign countries as an alternative to conventional bricks for sustainable housing. An experimental effort has been made on Decorative bricks. This project gives the results of an experimental investigation in which the compressive strength, water absorption and density were investigated by using varying percentage of fly ash, Red soil, Sand, Coarse aggregate, Marble chips, Cement with different mix proportion. The vibrant crusher used in the bricks to give the decorative look to the blocks which gives appreciable results discuss in detail. The experimental results compared with the ordinary M20 bricks to check the sufficient strength for their use in sustainable building construction. The basic idea was to manufacture the decorative bricks which can give decorative look to the fencing walls and boundaries to reduce the cost of painting or any other plastering materials in a economical way. First, we experimented on mud blocks by using red soil, but we didn't get the expected strength. Then we replaced the Red Soil with the Fly ash in the same composition and get the expected strength. The marble chips are used in these bricks to give decorative look in the varying percentages. The dimensions of the blocks were 150x150x150 mm. The composition of the bricks was 50% of cement, 50% of other cementitious material and 100% of fine aggregate, 50% of coarse aggregate and 50% of Marble Chips. Average Compressive strength of Decorative blocks is10.22 N/mm 2 (for 14 days curing)

ICSPEC102

EFFECT OF SUGARCANE BAGASSE ASH ON WORKABILITY AND COMPRESSIVE STRENGTH OF CONCRETE

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ABSTRACT: Some of the waste materials cause harm to the environment if it leaves carelessly. The utilization of these materials in special manners will give fruitful results in environmental and economic aspects. Sugarcane bagasse ash also comes under this category. Sugar Cane Baggasse Ash (SCBA) contains a high amount of silica. Various burning processes are used to produce the SCBA. This paper contains the Workability and compressive strength results of various mixes M1, M2, M3, M4, M5, and M6. In which cement replaces partially by SCBA by the 0%, 5%, 10%, 15%, 20% and 25% respectively. At the end of the experimental procedure workability of mixes increasing with an increase in the SCBA content.

Key words: SCBA, Sugar Cane Bagasse Ash, Workability, Superplasticizer.

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ICSPEC103

CONVENTIONAL MIX DESIGN OF M25 GRADE CONCRETE CONTAINING FLYASH AS A PARTIAL REPLACEMENT MATERIAL TO THE CEMENT AND DISPOSAL CONCRETE AGGREGATE

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ABSTRACT:
In India the majority of the buildings are being carried out with concrete. The concrete is usually applied composite cloth in any building that is having immoderate standard average performance further to resilience in withstanding the loads. Concrete is a mixture of cement, penalty in addition to crude mixture, water and admixtures on the same time because the use is called for. The concrete can be of several types like regular concrete, mild weight concrete, and reinforced concrete. In this look at paintings we're doing a traditional mixture format of M25 first rate concrete containing knocked down concrete accumulation as well as fly-ash. The knocked down aggregates are properly brightened previous to collectively with to the mixture. The concrete and first rate combination bits can be eliminated to make sure that we can rent the combination. The fly-ash is a partial alternative to the cement which isn't always surpassing 28% to the cement internet content material. In this traditional combination we are developing a part of five%, 10%, 15%, 20%, 25% fly-ash to the M25 Grade aggregate proportion. The casted cubes and moulds were dealt with for 7, 14, 28 days. Here we are casting dices as well as beam of slight moulds for compression and moreover flexural screening.
Key words: Demolished aggregate, Fly-ash, compression test, flexural test.

ICSPEC104

MINERALOGICAL AND MORPHOLOGICAL STUDIES USING SEM AND EDAX TESTS ON SCBA SILICAFUME CONCRETE

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ABSTRACT: SEM and EDAX analysis are vital to find out the mineralogical and morphological characteristics so as to identify the cementitious compounds formed during hydration process to substantiate the strength properties. In this study mineralogical and morphological studies were carried out on normal, silica fume and SCBA silica fume concrete for two different mixes using Scanning Electron Microscopy (SEM) and Energy Dispersive X-Ray Spectroscopy (EDAX). The hydration of cementitious substances and the absence of ettringite in the development of Type I and Type II C-S-H phases were revealed in the SEM and EDAX analysis of 10% SCBA silica fume concrete of 1:3:3 and 1:6.5:6.5 mixes. It was observed from SEM analysis that needle shaped ettringite were absent in the sugarcane bagasse ash silica fume concrete at 28 days. Further, the EDAX analysis reveals that the sugarcane bagasse ash silica fume concrete have only Type I and Type II C-S-H which is the solely responsible for increased strength. The absence of ettringite and calcium hydroxide in the system would prevent the formation of secondary compounds and thereby expansion as well as cracking of concrete at later stages. The study reveals that the C-S-H phases formed are solely responsible for the increased strength of SCBA silica fume concrete and further in hollow concrete blocks.
Keywords: SCBA, silicafume, SEM, EDAX

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ICSPEC105

STRENGTH ANALYSIS OF GEO-POLYMER CONCRETE BY PARTIAL REPLACEMENT OF GGBS WITH FLY-ASH

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ABSTRACT: Concrete is one of the most vital materials in constructions. One of the main ingredients in concrete is Portland cement. Cement acts as a binder and high energy intensive material. Due to the excess usage of cement, pollution also increases. Cement also consumes significant amount of natural resources. Geo polymer is an alternate binder to cement. Geo polymer concrete is a green technology and eco-friendly and it is more sustainable than cement concrete. In this study, the industrial wastes like fly-ash and GGBS were introduced in Geo-polymer concrete technology. No any standard mix design procedures are available for Geo-polymer concrete like cement concrete. To obtain the quantities of constituents of GPC, the unit weight of concrete is assumed. Geo-polymer concrete was prepared as 70% of its volume with aggregates and replacing Fly ash partially with GGBS varying from 5%, 10%, 15, 20% and 25% by mass of fly ash. Workability and strength properties were studied with two different concentrations of 8M and 14M. Heat curing influences the strength gaining. The effect of heat or oven curing on GPC is studied for 3hrs, 12hrs and 24 hrs.
Key words: Aggregates, Compressive strength, Flexural strength, Fly-ash, Geo-polymer concrete, Slump cone test, GGBS, Split tensile strength**.**

ICSPEC106

MODELING AND ANALYSIS OF TSUNAMI WAVE PROPAGATION CHARACTERISTICS BY BOUSSINESQ APPROXIMATION IN THE COAST OF BAY OF BENGAL

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ABSTRACT: One of the destructive forces of nature is tsunami. In this paper, the propagation phase of tsunami is modeled and calculated tsunami characteristics are analyzed. Tsunamis are the nonlinear, linear frequency dispersion and shallow water waves which depends only on the variable water depth. Nonlinearity of the tsunami wave characteristics is modeled by boussinesq approximation for the homogeneous ocean with the variable bottom. Tsunami wave parameter are calculated for the zone between West coast of northern Sumatra, Indonesia (95.85E, 3.316N) and Marina beach, Chennai, Tamil Nadu, India (13.04375N and 80.28542E) for 9.1 magnitude of thrust fault earthquake. The wave height and travel time are validated and verified with the observed data. From this study, speed of tsunami in the deep ocean is 694 km/hr and in the shallow coast at 5 m depth which reduces to 25 km/hr. Amplitude of tsunami at the coast is 2.388 m and nearby the shore tsunami started to curl ($\lambda < 7H$), so it reaches the coast as massive flooding. Minimum travel time to reach the coast of Tamil Nadu is calculated as 2 hour 21 minutes 54 seconds.
Key words: wave propagation, nonlinear, shallow water waves, boussinesq approximation.

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ICSPEC107

REINFORCING THE BLACK COTTON SOIL SUBGRADE BY USING STONE DUST

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ABSTRACT: Soil stabilization is the interaction that includes upgrading the actual properties of the soil to improve its strength by mixing or blending in with added substances. The various sorts of techniques utilized for soil stabilization are Soil stabilization with concrete, Soil stabilization with lime, Soil stabilization utilizing bitumen, chemical Compound stabilization, and another arising innovation of stabilization. In this investigation, we are utilizing stone dust as Material for the stabilization of soil. With the acquaintance of stone dust with the soil, the CBR esteems will improve and in this manner the thickness of the asphalt layer likewise gets decreased. It likewise decreases the force of weight on sub evaluation. Stone dust is effectively accessible, eco-accommodating, and furthermore financially savvy. The CBR estimation of the soil with the expansion of 0.25%, 0.5%, 0.75%, and 1.0%, stone dust by weight of soil is discovered to be expanded. From the restricted research facility study directed we presumed that the 0.75% of stone dust fiber can considerably improve the properties of black cotton soil. Also, consequently 0.75% of stone dust fiber is the ideal fiber content for black cotton soil to resist the stresses from the top of the pavement.

Key words: Soil stabilization, bitumen, chemical Compound stabilization, CBR estimation.

ICSPEC108

CONFINEMENT EFFECTS OF CONCRETE FILLED STEEL TUBULAR COMPOSITE COLUMNS-AN EXPERIMENTAL STUDY

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ABSTRACT: Concrete Filled Steel Tubular (CFST) composite columns have been used as bridge piers and columns in multistory buildings etc. It is now widely accepted that concrete filled steel tubular composite columns are well suited as compression members in high-rise buildings, long span, heavy loading and seismic structures. However there are limitations to its applications mainly due to lack of design guidance. This paper deals with the confinement effects of concrete filled steel tubular composite column subjected to different axial loading conditions and the effect of slenderness. The columns were circular in cross-section with constant D/t. The experimental study includes for the confinement effect that the axial load applying on the steel only, on the concrete core only and both the concrete and steel. The bond between the steel and internal core concrete was critical in determining the formation of local buckling. In slenderness effect when the slenderness ratio is very low the column fails due to yielding of the steel and crushing. When the slenderness ratio is large, the column fails by elastic buckling.

Keywords: Confinement effect, Slenderness ratio, Concrete filled steel tubular, Composite column.

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ICSPEC109

UTILIZATION OF PLASTIC BOTTLES AND U-BOOT TECHNOLOGY FOR SUSTAINABLE BUILDING CONSTRUCTION

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ABSTRACT: Disposal of large quantity of plastic bottles (PET Bottles) has emerged as an important environmental challenge, and its recycling is facing a big problem due to non-biodegradable nature. As plastic does not decompose biologically the amount of plastic waste in our surroundings is steadily increasing. Plastic bottle is considered as urban junk with sustainability characteristics which can be used as building material instead of some conventional materials such as bricks in building construction. Depending upon the availability of plastic bottles waste in certain locations, an ample number of dwelling units can be possibly built to provide housing to urban-poor in India, where housing shortage is becoming an acute problem. U-Boot voided technology is used in slabs to reduce the volume.

Keywords: Environmentally-challenges, non-biodegradable, decompose, urban-junk, dwelling units, plastic bottles, U-Boot technology.

ICSPEC110

A CASE STUDY ON ENERGY AND ENVIRONMENT ANALYSIS ON GREEN BUILDINGS

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ABSTRACT : Green Building or sustainable building are those buildings which promotes the use of water, energy and materials effectively and thus reduce the building's impact on individual's health and the environment by implementing better design, construction, operation, maintenance and removal. When we compare the standard conventional building with a Green building, it can be noted that the usage of water and electricity is reduced, conserves natural resources, optimizes energy efficiency, generates less waste and also provides a healthier and positive environment for resident. Green buildings are also designed to reduce its negative impact to human health and the environment. The practice of constructing Green Building increases the design concerns of economy, comfort, utility, and durability. The U.S Green Building Council created LEED (Leadership in Energy and Environmental Design) as a set of rating systems for the design, construction, operation, and maintenance of green buildings. LEED Certification includes Energy efficiency, water efficiency, CO2 Emission reduction, and Indoor Environment quality which help to know how environmentally friendly and sustainable the buildings in real are and at what level it can be attained.

Keywords: Plain cement, Polyethylene Glycol-400, Self-curing, Compressive strength.

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ICSPEC111

ANTI WATER LOG RESERVOIR ON ROADS

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ABSTRACT: As transport is facing problem on roads by water logs during monsoon season as this is major issue in Hyderabad city. During extreme weather conditions transport infrastructure can be damaged and leads to threats to human safety. Flooding, especially as a result of intense precipitation, is the predominant cause of weather – related disruption to the transport sector. Water reservoir must be ready to the control of catastrophic flood. A water log depends on increase of rainfall intensity and time concentration maximum water discharge on the roads. Some water reservoirs have enough capacity to the store the water but during high concentration or intensity of rainfall. Diverting the water flow to the rivers or lakes by underground supply. As growing production of plastics, their volume are evenly growing up also in the waste, therefore it is necessary to solve the plastic waste problem. For this we are using plastic waste as the material for pits.

Key words: water logs, transport, plastic waste, water reservoir, water gates, catastrophic

ICSPEC112

COMPARATIVE STUDY OF SELF-CURING CONCRETE USING POLYETHYLENE GLYCOL IN CONCRETE WITH DIFFERENT DESIGN MIXES.

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Abstract: Concrete is the mixer of cement, sand, and coarse aggregate with a proper water-cement ratio. Complete strength of the concrete will be achieved with proper curing as the heat of hydration plays a major role in designed strength. Now a day curing is a major problem faced after post-construction to achieve desired strength due to scarcity of water and non-availability of proper recourse in congested areas. To overcome the shortfalls and to improve the strength of concrete can be achieved by using a water-soluble self-curing agent. The present study on concrete is by using a self-curing agent like polyethylene glycol is mixed with different design mix i.e M20 and M40 concrete in terms of different percentages to impact the strength of concrete ability without curing. The self-curing agent PEG 400 is mixed in proportion in terms of percentage as 0%, 0.5%, 1.0%, 1.5%, and 2.0% respectively in M20 and M40 concrete to find out the compressive strength of concrete without curing and compared with normal concrete with curing. Total Number of Cubes for different percentage tested with 9 Cubes as per IS 456:2000 to find out the Characteristic strength of Plain concrete for 7days, 21 days, and 28 days. This investigation aims to study the strength and durability properties of concrete using the function of the self-curing agent is to reduce the water evaporation from concrete and hence by increasing the water retention capacity of concrete to reduce the water usage and time for curing.

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ICSPEC113

ANALYSIS OF A MULTI-STORY BUILDING USING ETABS

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ABSTRACT

Structural Analysis is a branch which involves in the determination of behaviour of structural members in order to predict the responses of different structural components due to effect of loads. Each and every structure will be subjected to either one or the groups of loads, the various kinds of loads normally considered are dead load, live load and wind load. ETABS (Extended Three-Dimensional Analysis of Building System) is design the buildings. Load analysis of structural members like beams, columns, and of any structure is a time-consuming process if we do it manually so we can use software's for the load analysis of the members of the structure for the loads acting on them even before the constructionwhich helps in choosing the appropriate design considerations required the structure to be safe for the loads acting on the structural members of the structure we are considering.Using ETABS for design and analysis of any structure gives the shear force and bending moment and shear-force of the members of the structure like of the beams and columns due to the load acting on them even before the construction of the structure which helps considering the design properties of the structure like grade of concrete, grade of steel, size of column, and size of beams as required for the loads acting on the structure. Our project is generally based on Design and Analysis of Multi-Story Buildingusing ETABS software. Planning of any type of building is done according to the specifications of national building code (NBC) in India, Hence the (G+5) residential building is properly planned in accordance with the national building code of India using AutoCAD software. Design and Analysis of Multi-Story Building is done according to IS-Code provisions. The reinforcement and the concrete of Multi-Story is designed according to the specifications of IS 456-2000.All the structure members like slabs, beams and columns are designed with reference of IS:456-2000. load active on the member like beam, column and slabs are considered according to the IS Standards. designing and analysis of the building for loads (dead load, live lode, wind load) and as per is codes and all the structural members are as per IS 456 and IS:875(part, part2, part3).

Keywords: ETABS Software, Load Analysis, Residential Building, IS-Codes

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ICSPEC114

STUDY ON STRENGTH CHARACTERISTICS OF PERVIOUS CONCRETE BY USING FLYASH AND RICE HUSK ASH

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ABSTRACT: Pervious concrete is a special type of concrete, which consists of cement, coarse aggregates, water and if required, admixtures and other cementitious materials. In this paper, study conducted on pervious concrete by using various proportions of flyash and rice husk ash with replacement of cement and tested the strength characteristics. In addition, study conducted on permeability of pervious concrete to enhance the improved strength characteristics of pervious concrete. The main aim of our project is to improve the strength characteristics of pervious concrete by using admixtures like flyash, rice husk ash

Keywords: pervious concrete, permeability, admixtures of concrete, coarse aggregate.

ICSPEC115

STRENGTH IMPROVEMENT IN PERVIOUS CONCRETE USING ADMIXTURES

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ABSTRACT: Pervious concrete is a special type of concrete, which consists of cement, coarse aggregates, water and if required, admixtures and other cementitious materials. As there are no fine aggregates used in the concrete matrix, the void content is more which allows the water to flow through its body. So, the pervious concrete is also called as permeable concrete and porous concrete. There is lot of research work is going in the field of pervious concrete. The compressive strength of pervious concrete is less when compared to the conventional concrete due to its porosity and voids. Hence, the usage of pervious concrete is limited even though it has lot of advantages. If the compressive strength and the flexural strength of pervious concrete is increased, then it can be used for more number of applications. For now, the usage of pervious concrete is mostly limited to light traffic roads only. If the properties are improved, then it can also be used for medium and heavy traffic rigid pavements also. Along with that, the pervious concrete eliminates surface runoff of storm water, facilities the ground water recharge and makes the effective usage of available land. The main aim of our project is to improve the strength characteristics of pervious concrete by using admixtures like silica fume, silica sand and Naphtha based Super Plasticizer.

Keywords: Pervious Concrete, Admixtures, Mix Design,

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ICSPEC116

SMART BUILDINGS FOR POST-PANDEMIC WORLD

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ABSTRACT: A building is the place where the people used to spend their 70-85% of time throughout the life-span. Buildings uses technology and process, to invent a facility that is safe, healthy, comfortable and enables productivity, well-being of its occupants. With unpredictable circumstances in today's world, it is very essential for Engineers, Architects and Construction managers to make buildings which are safe, energy efficient, smart by its function and usage too. The COVID-19 global pandemic and, it's economy will have a deep-rooted consequence on how people effort, meet, reside, mitigate, travel, holiday and interact. Work from home and quarantine during the pandemic have astonishing of both employees as well as employers to the chance of performing things differently. Here we have some advantages too. Avoiding communicating has increases the air quality .it has also established initiated additional moments into many individuals dwells for which some have primary benefaction to an improved work-life equilibrium. For others, it has established immense intensity of stress. Here comes the role of smart building for post pandemic world. This article encloses the review of research era in the field of smart building.

Key words - Human needs, Technology, Smart Building, COVID-19 Pandemic, Engineers, Architects, Construction managers

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ICSPEC201

GRID POWER LEVELLING AT DIMINISHED GUSTS UTILIZING DFIG

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ABSTRACT: The uses of renewable sources are very high in power generation in the last past decade. Wind Energy Conversion Systems (WECS) have stood ahead of other renewable energy sources like solar energy, which still lags owing to the high cost of electrical power generated. The Doubly Fed Induction Generator (DFIG) is used for WECS because it combines the advantage of reduced converter rating, variable speed operation, and four-quadrant control of active and reactive power control capabilities. The stator windings of the DFIG are directly connected to the grid and rotor windings are fed through bidirectional pulse width modulation and voltage source converters to control the stator and rotor output power fed to the grid for variable speed operation. The output power of DFIG is highly fluctuating due to the varying nature and unpredictability of wind speeds. Incorporating a battery or any other storage device in the dc-link enables temporary storage of energy and, the ability to provide constant output active power. The proposed topology includes Battery Energy Storage System (BESS) to reduce the power fluctuations on the grid. A novel control strategy to ensure the "power levelling" at the grid side is developed. The exclusive control feature of DFIG is developing the control algorithm in two axes synchronously rotating reference frame. An analysis is made in terms of active power-sharing between DFIG and the grid taking into account the power stored or discharged by the BESS, depending on the available wind energy. The proposed strategy and developed model is designed then simulated in MATLAB-SIMULINK.

Keywords: Battery energy storage system (BESS), doubly fed induction generator (DFIG), grid power levelling, vector control

ICSPEC202

RESTRUCTURING AND SCENARIO OF RENEWABLE ENERGY SOURCES ON INDIAN POWER MARKET

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ABSTRACT: Power Industries are generally come after the market as per the Government framework which involves vertically integrated utility. Single utility owns complete generation, Transmission and Distribution with optimal power and money flow with respect to individual consumers. In recent days, Regulated power structure has been exploring into deregulated power market to enhance efficiency by appealing various private investors with proper system forethought and authentic performance at admissible electricity prices with the integration of Independent System operator to improve the quality of service. Due to binding of thermal limits of transmission network, implementation of deregulation may leads to complicate in System. The other extreme, Electricity market is raising tremendously with renewable energy sources along with convention energy sources. In this paper, Power Market scenario due to deregulation and ways to suppress congestion issue for Non-Conventional energy sources has been discussed.

Keywords: Congestion, Deregulation, Renewable Energy Sources, Power Market

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ICSPEC203

ONE PHASE 1-D MOVING BOUNDARY PROBLEM FOR SPHERE

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ABSTRACT : The main purpose of this paper is to introduce a variable time step method to obtain numerical solution to one phase Stefan problem of Sphere. We present the basic difficulty, apart from the need to find the moving boundary, that there is no domain for the space variable. This difficulty is handled by the age old principle of basic mathematics. Naturally, giving symbolic names to the unknowns developed equations involving partial differential equations which is solved using the conditions of the problem. Higher order accurate initial time step sizes for given space step size are obtained with the help of Green's theorem of vector calculus. Subsequent time steps are obtained by an iterative scheme with assured convergence. This variable time step method handled Dirichlet's problem of freezing or melting of a spherical droplet.

Keywords: Moving boundary, Green's theorem, collocation, one phase problem, variable time step.

ICSPEC204

DESIGN OF ADAPTIVE POWER OSCILLATION DAMPING CONTROLLER BY STATCOM WITH ENERGY STORAGE

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ABSTRACT: This paper deals with the design of an adaptive power oscillation damping (POD) controller for a static synchronous compensator (STATCOM) equipped with energy storage. This is achieved using a signal estimation technique based on a modified recursive least square (RLS) algorithm, which allows a fast, selective, and adaptive estimation of the low-frequency electromechanical oscillations from locally measured signals during power system disturbances. The proposed method is effective in increasing the damping of the system at the frequencies of interest, also in the case of system parameter uncertainties and at various connection points of the compensator. First, the analysis of the impact of active and reactive power injection into the power system will be carried out using a simple two-machine system model. A control strategy that optimizes active and reactive power injection at various connection points of the STATCOM will be derived using the simplified model. Small-signal analysis of the dynamic performance of the proposed control strategy will be carried out. The effectiveness of the proposed control method to provide power oscillation damping irrespective of the connection point of the device and in the presence of system parameter uncertainties will be verified through simulation and experimental results.

Keywords: power oscillation damping, STATCOM, power oscillation damping.

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ICSPEC205

DEVELOPMENT OF AN INTELLIGENT LENS FOR VISUALIZING ANALOG AND DIGITAL MEASUREMENTS.

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ABSTRACT: The main intention of this paper is to introduce a new device with unmatched scope of growth in future and in present times. The device discussed in this paper is known by the name Intelligent lens for Voltage and Current measurements). The main goal behind making this device is to avoid accidents which is caused during testing, Usually the observer faces problems while taking measurements, the sample probes are placed on the points and have to see the measurements at a same time which leads to improper measurements and also consumes a lot of time. To overcome this problem, we introduce this intelligent lens in which voltage and current readings will be displayed. The frame is consisting of a cardboard box which includes all the circuitry along with the OLED display and the lens which is used for the reflection of measurements. This device is easy to handle on the ears along with the glasses and allow the observer to view the measurements.

Keywords: VI-meter, OLED, Lens etc.

ICSPEC206

IMPLEMENTATION OF BLDC ELECTRICAL MOTOR DRIVE FOR VARIABLE SPEED

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ABSTRACT: Brushless DC (BLDC) motors, also referred to as permanent magnet motors find wide applications in many industries thanks to their higher performance, reliability and simple control. a brand new generation of microcontrollers and advanced electronics has overcome the challenge of implementing required control factions, making BLDC motor more practical for a good range of uses. the main objective of this project is controlling speed of BLDC motor for variable speeds with different techniques and displays its desired output. The speed control of the BLDC motors is extremely essential. This proposed system provides a really precise and a price effective speed system . The user can increase or decrease the speed as per the need and also the motor will run at that exact speed. during this project, we concentrate on the Simulink modelling of BLDC using MATLAB/SIMULINK.

Keywords: Proportional-integral-derivative computer numerical control digital signal processor pulse width modulation field programmable gate array variable frequency drive.

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ICSPEC207

MICROCONTROLLER BASED SOLAR-TRACKING SYSTEM WITH STEPPER MOTOR CONTROL

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ABSTRACT: In this paper, a new micro-controller based solar tracking system is proposed, implemented and tested. The scheme presented here can be operated as independent of the geographical location of the site of setting up. The system checks the position of the sun and controls the movement of a solar panel so that radiation of the sun comes normally to the surface of the solar panel. The development tracking system tracks the sun both in the azimuth as well as in the elevation plane. PC based system monitoring facility is also included in the design.

Keywords: micro-controller based solar tracking system, solar panel, development tracking system.

ICSPEC208

POWER QUALITY IMPROVEMENT IN NINE BUS BY EMPLOYING MULTI LEVEL INVERTER BASED DPFC

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ABSTRACT: In recent times, DPFC - system is an advanced circuit in the family of FACTS Devices. This paper investigates Multi Level Inverter (MLI) based Distributed Power Flow Controller (DPFC) system for voltage sag mitigation and power quality improvement. The function of DPFC work is to maintain good voltage profile in transmission system by using DPFC. The DPFC employs a Shunt based Static Compensator (STATCOM) and multiple series converters to improve the power quality. The DPFC was placed at the correct location in the power transmission system to gain advantages like reduced power loss. Multilevel inverter (MLI) based DPFC is proposed in the present work. Circuit - models are produced for fourteen bus system with and without DPFC. MATLAB/SIMULINK is used for modelling of DPFC. The results obtained show an improvement in voltage sag - mitigation, voltage quality of load busses, power quality improvement and reduction in load voltage harmonics. The results depict improved power quality and reduction in total harmonic content using MLI based DPFC.

Keywords: DPFC – system, Shunt based Static Compensator (STATCOM), Distributed Power Flow Controller (DPFC).

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ICSPEC209

EXTRACTION OF MAXIMUM POWER FROM SOLAR ARRAY CONNECTED IN TCT CONFIGURATION USING P&O ALGORITHM

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ABSTRACT: With Abundant power available in the form of solar energy, it is not only necessary to utilize that energy but also important to extract maximum power from that source and minimize the losses. So in my paper below we will discuss how maximum power is extracted from the solar array connected in Total Cross Tied (TCT) configuration using Perturb and Observe Method and fed to an Active DC load along with a Battery pack in order to maintain power to load regularly during low irradiance conditions and maintain constant DC voltage across the load terminals. Simulation of above conditions is achieved using MATLAB SIMULINK.

Keywords: TCT configuration, MPPT, Perturb and Observe, Boost converter, Battery pack, PI control.

ICSPEC210

CONTROL OF DC GRID WITH MULTIPLE SOURCES

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ABSTRACT:A Hybrid AC/DC microgrid is approved to be the major method of generating power in the role of power system for reducing conversion loses in the multiple conversion scheme. This grid consists of individual AC/DC grids connected to their corresponding AC/DC grids respectively. These AC and DC grids are interconnected by means of bidirectional main converter. PV, wind turbine, battery are the main sources for generating power in the different mode of operating conditions. The hybrid grid operates in two modes of operation islanded and grid connected modes. In islanded mode of operation, the utility grid is isolated from the hybrid grid. In grid connected mode of operation, the utility grid plays a major role in the power generation. By this the hybrid grid gets more power and the efficiency improves automatically. Finally, the system gets more stable and reliable by employing suitable coordination scheme. Fuzzy based MPPT coordination scheme is implemented in this project and obtained the results using MATLAB simulation model.

Keywords: Hybrid micro grid, bidirectional main converter, coordination scheme, islanded mode, grid connected mode, fuzzy based MPPT.

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ICSPEC211

ANALYSIS OF VARIOUS FAULTS IN DIODE CLAMPED MULTI LEVEL FED INDUCTION MOTOR DRIVE

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ABSTRACT: Induction Motor [IM] is the most preferable choice for various industrial and domestic applications. For variable speed applications Induction motor is fed with various Inverter topologies. Among all the various topologies the diode clamped multilevel inverter is widely used in view of various factors like simple design, modulation etc. In Operation of Induction motor drive, various occurrence of faults are inevitable. Among the faults with occur in the drive, faults in Inverter are recurrent. In this paper various faults which occur
in Induction motor drive are analysed. the faults considered are diode open, diode closed, switch open, switch closed, gate open and gate closed. The effect of the above mentioned faults on Induction motor drive are analysed and presented in the paper. The simulation of the proposed work is carried in simulink and the results are presented for various case studies.

Keywords—Diode clamped, Inverter, Fault, Switch open and Switch short.

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ICSPEC301

BIOGAS GENERATION IMPROVEMENT THROUGH TRACE ELEMENTS AND PRETREATMENTS: A REVIEW

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ABSTRACT: The degree of degradation of organic substrate in an anaerobic digester depends on the bioavailability and nutrients contents of the substrates. The deficiency of nutrients and bioavailability of substrates reduces the performance of the anaerobic digestion process and hence, results in lower biogas production. To improve the performance of anaerobic digestion and to accelerate the process, the various researcher investigated the effect of micronutrients such as cobalt, nickel, iron, potassium, calcium, manganese, copper, zinc and the effects of different pretreatments such as physical, chemical, thermal, ultrasonic on biogas optimization. The literature data shows that the concentration of the micronutrients within permissible limits and pretreatments not only prevent process instability but also improves biogas production by stimulating microbial activities.

Keywords: Trace elements, Pretreatment, Sodium hydroxide, Biomass

ICSPEC302

SIMULATIONS AND ANALYSIS OF GAS TURBINE BLADE

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ABSTRACT: Turbine blades play a major role in various sectors of the energy production units such as thermal power plants, hydraulic power plants, gas turbine power plants, wind energy power generation plants and in the aviation sector to propel the vehicles, etc. Development of these turbine blades reached to a matured technology level yet the development of turbine blades specifically in the field of gas turbines is at a constant pace. This is because of the complexities faced in the modeling of the blade which will directly interact with the flames from the combustion chamber in which high temperature and pressure exist. Due to this high temperature and pressures in the combustion chamber of the gas turbine and the direct exposure to the flames, the blade faces stress corrosive cracking and reduced life span if we increase the operating conditions such as temperature and pressure. But in order to achieve high efficiency, the turbine should work at supercritical conditions i.e., the temperature of the working fluid should be greater or equal to 6000 o C. This research aims at simulations and analysis of a gas turbine blade which works at super-critical operating conditions using the Nickel alloy (Inconel 718), the results obtained after the simulation process on gas turbine blade with the nickel alloy is compared and conclusions are stated. The simulations and analysis of gas turbine blade are performed using ANSYS.

Key words: Gas Turbine Blades, Inconel alloy 718, Properties, ANSYS.

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ICSPEC303

PROTOTYPE GEAR DEVELOPMENT BY USING THE METHOD OF REVERSE ENGINEERING

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ABSTRACT: This project is about application of reverse engineering. Reverse engineering helps in obtaining the geometry of part or product which is not available otherwise. Its application makes it possible to reconstruct the original component with its drawing and manufacturing process. In this project we are going to produce spur gear used in automobile by Reverse Engineering. The procedure includes various stages which will help understand the different phases of reverse engineering. The process starts with understanding the reverse engineering procedure. The part geometry is first obtained with the help of scanning technology. Then with the use of different software's, the three- dimensional model of the spur gear is obtained. Once the CAD model iso btained the part is analyzed using SOLIDWORKS simulation tool. After the optimized geometry is obtained, the pattern of the part is obtained using Rapid prototyping machine. This can be used for casting of the original part.

Keywords: Reverse engineering, reverse engineering stages, scanners. Spur Gears.

ICSPEC304

REVIEW PAPER ON ADVANCEMENTS IN THE FIELD OF ADDITIVE MANUFACTURING

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ABSTRACT: Additive manufacturing is initially developed to meet the needs in the field of Aerospace engineering. As the cost of sending a component into the space to replace the failed part is more than the actual cost of the product the researchers started working on printing machines. This effort of the researchers & research organization bought a 3D printing machine into the picture. Taking the 3D model as reference the 3D printing machine prints the component by adding the material in layers. Later the application of 3D printing was extended in many fields like medicine, automobile, Textile industry etc. Taking a step forward 4D printing was developed by Massachusetts institute of technology (MIT) a private research university in Cambridge in 2013. 4D printing is printing a 3D component with smart material to add a fourth dimension called intelligence. Hence this gave rise to programmable printing. Complex parts cannot be printed using 4D printing technology. Taking the limitations of 4D printing technology into consideration 5D printing technology is developed. This paper deals with the advancements in Additive manufacturing and its applications in the field of aerospace, automobile, medicine, textile industries etc.

Keywords: 3D printing,4D printing,5D printing, Additive manufacturing, Fourth dimension, Fifth dimension, Smart materials, Programmable printing.

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ICSPEC305

EVALUATION OF CFD ANALYSIS OF FILM COOLING AND EFFECTIVENESS OF INLINE AND STAGGERED INCLINED CYLINDRICAL HOLES ON A FLAT PLATE

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ABSTRACT: The experimental work concentrates on the CFD Analysis of the film cooling performance of 3 rows of inclined cylindrical holes on a flat plate. The diameter of the every hole is 10mm, the area between rows is fourfold the diameter, and also the distance between the holes in an exceedingly row is six fold the diameter. 2 models area unit thought-about, one in all the models is Inline and also the different is staggered arrangement of holes. The procedure investigation is finished by victimization modeling software package GAMBIT two.4 version, and ANSYS fourteen.5. Three-dimensional numerical simulation was performed by victimization Fluent CFD (computational fluid dynamics) software package. Second-order up wind was elect for the separateness of the governing equations, and also the RNG (renormalization group) k–e turbulence model was applied. The varied processing ratios i.e, B=1.2, 2.5, 3.5 and 4.0 area unit thought-about for analysis. At processing magnitude relation one.5, staggered configuration shows high effectiveness close to the outlet region however, the plate from the outlet region is very established by the most stream of gases. For processing ratios of two.5, 3.5 and 4.0 the plate is protected against mainstream gases even at so much distances conjointly for each inline and staggered configurations.

Keywords: CFD, Film cooling, RNG.

ICSPEC306

FABRICATION OF ECO-FRIENDLY SOLAR REFRIGERATOR CUM OVEN

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ABSTRACT: In this research the main aim is to design modification, make investigation of a Cooling and Heating system with the help of Thermoelectric Module by utilizing non-conventional energy source which works on the Peltier effect principle. The solar energy is the universal source, competition free and lowest cost of energy as sunshine's throughout. This energy mainly depends upon the photovoltaic technology and the electrical energy will be converted from this energy by using this principle. The heat pumping of thermoelectric solar-driven is one and only of these innovative tool. The TEM operating principle is based on the Peltier effect. This will be an affordable and suitable system for usage in automobiles as a cooling and heating unit, to store food, people living in remote areas, cars, trains, aeroplanes, war fields and also for the medicines in ambulances. As per our requirement any one can design the system because as the module is compact in size. The foremost alteration between this system and existing system is that, it works without use of refrigerant and without mechanical equipment too. In this research we made to conduct an experiment on solar operated thermoelectric Cooling and Heating system for small scale.

Key words: Peltier Effect, Solar Refrigerator, Solar Oven, Heating and Cooling.

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ICSPEC307

PERFORMANCE CHARACTERISTICS OF D I DIESEL ENGINE BY USING BIODIESEL WITH BLENDS

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ABSTRACT: Biodiesels produced from various feedstocks have been considered as alternative fuels used in internal combustion engines without major modifications. This research focuses on producing biodiesel from waste cooking oil (WCOSD) by the catalytic cracking method using MgO as the catalyst and comparing the engine operating characteristics of the test engine when using WCOSD and traditional diesel (CD) as test fuels. As a result, the brake power of the test engine fueled WCOSD, and traditional diesel is similar. However, the engine fuel consumption in the case of using WCOSD is slight increases in some operating conditions. Also, the nitrogen oxides emissions of the test engine fueled WCOSD are higher than those of CD at all tested conditions. The trend is opposite for hydrocarbon emission as the HC emission of the engine fueled by WCOSD reduces 26.3% on average. The smoke emission of the test engine in case of using WCOSD is lower 17% on average than that of CD. However, the carbon monoxide emissions are lower at the low and medium loads and higher at the full loads. These results show that the new biodiesel has the same characteristics as those of commercial biodiesel and can be used as fuel for diesel engines.

Keywords: Diesel Engine, Cooking Oil, Emission Analyser

ICSPEC308

STUDY OF MICROSTRUCTURE AND MECHANICAL PROPERTIES OF NB55TIALLOY

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ABSTRACT: In this present study Nb55Ti alloy with cross section of 150*50*30 mm was investigated Nb55Ti alloy has a property which shows resistance to ignition, due to its control over ignition mechanism be exercised it and used in flammable range, binary phases of Ti-Nb alpha plus beta Nb content further decreasing developed by alpha thermal processing of these alloys was investigated by transformation sequence on heating from room temperature to alpha defects of pure Nb alloy we rectified by post heat treatment with improvement in mechanical properties. In this work Microstructure and mechanical properties of this alloy are studied, which led to the startgey of similar welding for Nb55Ti alloy**.**

Keywords: Nb55Ti alloy, ignition mechanism, alpha thermal processing.

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ICSPEC309

A BRIEF REVIEW OF PRE-INSTALLATION REQUIREMENTS FOR GEOTHERMAL HEATING AND COOLING SYSTEMS

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ABSTRACT: Demand for renewable energy sources has increased significantly during the past 15-20 years. Due to this demand, one positive scenario occurred as there is a decrease in use of fossil fuels. Among various usages of the fuels, a significant amount of energy is being used in heating and cooling for commercial, domestic house spaces etc. Conventional air conditioning system consume large amount of energy, and became a burden especially in tropical countries. We propose here geothermal heating and cooling system that can contribute in reducing the air conditioning demand and contribute for the development of renewable energy. This paper focuses on a brief review of research work done by earlier researchers on this concept for achieving installation of system. Our work would be helpful for researchers conducting the research work to achieve efficient heating and cooling for human comfort. Our study will also provide an initial required knowledge for experimental work to the researchers involved in geothermal heating and cooling.

Keywords: Renewable energy, heating and cooling system, efficient heating and cooling.

ICSPEC310

DESIGN AND OPTIMIZATION OF SPINDLE IN CNC MILLING MACHINE

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ABSTRACT: Production markets try to make too much incredible items at a reduced cost to live hostile in the market. The product can be made via making use of varied production methods, together with machining, as well as great deals of others. Milling is a lot of one of the most not uncommon machining methods made use of to make planar surface areas with faster product removal and also well flooring outstanding. The crucial purpose of the technical info of metal reducing is the remedy to practical issues connected to the environment-friendly and also special removal of steel from work surface. It has actually been recognized that the dependable measurable forecasts of the many technical efficiency actions, ideally inside the kind of formulas, are important to expanding optimization strategies for selecting minimizing circumstances in method preparation. In this thesis, experiments may be accomplished to boost the surface area surrender pinnacle-notch light weight aluminum alloy artwork item through the way of means of making use of carbide tips. The kind is bull nose idea. A collection of experiments is possibly done incidentally of numerous the milling specifications spindle pace, feed fee and also deepness of lesson. The pin rates are 3500rpm, 3000rpm and also 2000rpm. The feed charges are 200mm/min, 300mm/min as well as 400mm/min. The strength of minimize is absolutely no.2 mm and also no.3 mm as well as 0.4mm. Taguchi technique is utilized to check the influence of technological specifications and also established a connection amongst several of the reducing rate, feed, and also deepness of reducing relative to the primary mach lack of ability information, the flooring surrender. Recognitions of the designed formulas are shown to be well within the arrangement with the speculative realities.

Keywords: Milling machine, Vertical CNC machine, Face milling machine, Aluminum.

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ICSPEC311

EXPERIMENTAL INVESTIGATION OF STIR WELDING FOR ALUMINIUM PLATES

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ABSTRACT: Friction Stir Welding (FSW), devise by Wayne Thomas at TWI (The Welding Institute) Ltd in 1991, overcomes many of the problems associated with unwritten note techniques. FSW is a solid-ostentation process which reproduce handle of high rank in disobliging-to-weld materials such as aluminium and is immovable correspondent the anapophysis of unused for manufacturing whippersnapper transport composition such as boats, trains and aero-even. The directing objective of this extend is to study strength of the rubbing animate wield aluminium alloy and bobbies official with disunite celerity by attracting tapper use bolt outline. The physical of tool is Char (High Carbon High Chromium). FEA analysis is discharge for friction stimulate welding of aluminum6061 and aluminium 5083 at 700rpm succession aid-dexterity ANSYS. Thermal and geotectonic analysis is performed. A parametric follow with the manipulate electrotype and quick puppet is done in Pro/Engineer. The operation of fid bus, orthogonal and full determine confine outline on the abrasion impel welding are study and at other quickness (700,1000, and 1600 RPM) for analysis

Key words - Finite element analysis, speed, tensile test, impact and hardness test.

ICSPEC312

OPTIMIZATION AND SIMULATION OF TWO WHEELER IC ENGINE PISTON USING ANSYS SOFTWARE

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ABSTRACT: A piston is a component of reciprocating engines, reciprocating pumps, gas compressors and pneumatic cylinders, among other similar mechanisms. It is the moving component that is contained by a cylinder and is made gas-tight by piston rings. The piston transforms the energy of the expanding gasses into mechanical energy. The piston rides in the cylinder liner or sleeve. Pistons are commonly made of aluminum or cast iron alloys. The main aim of the project is to design a piston for 1300cc diesel engine for two materials Cast Iron and Aluminum Alloy. The deigns of the piston are modeled using PRO-E software. The designs are evaluated by structural and thermal analysis by applying pressures and temperatures respectively. The result is evaluated by checking the stress, displacement, thermal gradient and thermal flux to decide the best design of the piston. Structural and Thermal analysis are done in ANSYS software.

Keywords: Two wheeler piston, CREO, ANSYS, aluminium alloy.

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ICSPEC313

CHARACTERIZATION OF POLYMER HYBRID COMPOSITE MATERIAL WITH KEVLAR AND CARBON REINFORCEMENT

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ABSTRACT: In the present research, an attempt has been made to fabricate hybrid fiber reinforced composite material with fibers Kevlar and carbon in binding material as epoxy. The two fibers are considered from different categories, Kevlar is organic synthetic fiber and carbon is inorganic synthetic fiber. These fibers have more advantages than the natural fibers such as strong, cheap, more durability, less water absorption capability etc. The bonding material is considered as epoxy and harder as HY951. In present research, composite material is fabricated using hand layup method by varying filler material as graphene powder. The specimens are prepared as per ASTM standards to determine the mechanical properties of composite material.

Keywords: Kelvar, Epoxy, Graphene, Composite Materials.

ICSPEC314

DESIGN AND ANALYSIS OF TWO STAGE PROGRESSIVE PRESS TOOL

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Abstract— Design, analysis and material involved in manufacturing of a Progressive tool for a component. The progressive tool executes two or more processes in series such as blanking, piercing, bending, draw, lancing, embossing etc, in a single tool. The progressive die has different stages, at each stage the tool will progressively shape the component towards its final shape, with the final stage normally being cutting-off. It plays a vital role in sheet metal industry. Sequence of operation is planned initially and then press tool is designed and analyzed and then manufactured. Progressive tool helps in increasing the rate of production. Development of strip layout and designing of die is the major phase in manufacturing of progressive tool, the heavy manufacturing losses at any work station can induce small error through die failure, part geometry production and distortion risk. In this research work we have modified two work stations in a progressive die. The earlier operation is piercing and is followed by blanking. This paper deals with the design of strip layout, design of progressive die, cutting force etc, and the type of raw material used in manufacturing and also the various machining process that, the raw material undergoes while manufacturing the press tool. The software's used for design are
AutoCAD 2019, Catia V5r21, and analysis is done in Ansys 17.1.

Keywords— Punching force, Design calculations, Press tonnage, Strip Layout, Progressive die, AutoCAD, Catia V5r21, Ansys 17.1 etc….

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ICSPEC315

EXPERIMENTAL DESIGN ANALYSIS AND MANUFCTURING OF A CONDENSER

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ABSTRACT: The present work has been carried out with a view to predicting the performance of a shell and tube condenser. The process in solving simulation consists of modeling and meshing the basic geometry of shell and tube condenser using Computational Fluid Dynamics package ANSYS 13.0. The performance of the condenser has been evaluated by using the CFD package FLUENT and has been compared with the existing experimental values. An attempt has also been made to calculate the performance of the above condenser by considering helicals baffles instead of regular Segmental Baffles and the result so obtained have been compared. The performance parameters pertaining to condenser such as effectiveness, overall heat transfer coefficient, energy extraction rate etc., have been reported in this work.

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ICSPEC401

SMART SYSTEM TO ASSIST VISUALLY IMPAIRED AND WOMEN SECURITY THROUGH IOT

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ABSTRACT: Usually the elderly or visually impaired people and women face a lot of difficulties when moving from one place to another or to their residence. Safety has become a major issue for women and the elderly or the visually impaired as the number of crimes increases day by day. This system describes the safety of women and their security by identifying the problems using the mobile unit and the embedded Smart Assist system. The proposed smart system will help them get out through their voice commands and emotions. The proposed system navigation and also alerts their family members about them. The proposed system captures new places and faces they have visited and met, compare the images with the database and alert their family members immediately. This research suggests a new perspective on the use of technology to protect women and the elderly or the visually impaired.

Keywords: Smart assist system, women security. Voice commands and Nodemcu.

ICSPEC402

DESIGN OF AN ENERGY EFFICIENCY COMPARATOR USING DYNAMIC CANCELLATION

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ABSTRACT: There has been increasing number of people to use portable devices due to its low power and for handheld. Symmetric circuits represent the highest performance stability and design efficiency. Dynamic comparators are generally used in the design of high-speed Analog-to-digital Converters and can be easily designed. The conventional comparator uses two phase clocking and maximum drive current. To overcome the disadvantages a new comparator has been proposed that uses low power and less delay. The proposed comparator has been designed and implemented in Cadence gpdk 180nm Technology at 1.8 voltage supply. Layout results are also done in 180nm CMOS technology which shows that power consumption is reduced by 75% and delay time reduced by 2%.

Index terms: Symmetric circuits, Analog-to-Digital Converters, Dynamic Comparators, Dynamic cancellation.

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ICSPEC403

VLSI STRUCTURAL DESIGN FOR HIGH PERFORMANCE MONTGOMERY MODULAR MULTIPLICATION

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ABSTRACT: Montgomery Multiplication Modular technique has been directed at fast secluded replication. Montgomery Modular Multiplication is widely used in Public Key Cryptography. This paper recommends a Semi Carry Save built "Montgomery Multiplication Modular Montgomery Modular Multiplication", with quick execution. One component is used to evade the accumulation of components at any extension. With the character of CSA, the machine could pre-calculate and pre-configure itself. Suggested Montgomery secluded Multiplier is first executed using VHDL programming language in Xilinx platform. A multiplier is then compared with one that is currently in use by Montgomery and tentatively redesigned according to area, deferral and force.

Keywords: Public Key Cryptography, Montgomery Modular Multiplication and Semi Carry Save, Carry Save Adder.

ICSPEC404

ARDUINO BASED HUMAN MACHINE INTERFACE FOR AUDIO SIGNAL CONTROL USING HAND GESTURE

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ABSTRACT: Human Machine Interface or HMI is a system comprising of hardware and software that helps in communication and exchange of information between the user (human operator) and the machine. We normally use LED Indicators, Switches, Touch Screens and LCD Displays as a part of HMI devices. Another way to communicate with machines like, Robots or Computers is with the help of Hand Gestures. Instead of using a keyboard, mouse or joystick, we can use our hand gestures to control certain functions of a computer like play/pause a video, move left/right in a photo slide show, scroll up/down in a web page and many more. In this paper, we have implemented a simple Arduino based hand gesture control where we determine the position of our hand and control a media player (VLC) & for controlling volume, playback or forward actions. Also, the technique controls Google Chrome browser for several applications.

Index Terms—Arduino, Ultrasonic sensors, HMI, Hand gesture control, Audio control, Browser control

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ICSPEC405

A SMART HOME ENERGY MANAGEMENT AND MONITORING SYSTEM BASED ON IOT DEVICES

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ABSTRACT: A major problem we are currently faced with regards to electricity is electricity wastage People are exposed to too many activities at home and in the workplace. Electrical appliances, like fans, may go unused from time to time if they were not noticed in the vicinity. High power consumption results from this. Also, for the physically challenged and elderly, it is nearly impossible to get to the appliances. To be sure of avoiding any such possibilities, we designed the system to say "smart home system". The use of an automated control system to synchronize electric and electronic household appliances to a central computer network allows for more efficient use of their resources. A "smart home"; helps to solve common challenges. There are multiple hardware components that must all be brought together to achieve the goal of implementing a smart home project, as well as a lot of software architecture that powers these other complex components. In addition, we must invest in handling basic jobs on an individual basis: we're investing lots of time and resources in this one-by-one phase One benefit of automation is that it can be performed automatically, so it doesn't have to be done on site with an equivalent amount of effort. More and more people are considering 'home automation' as a tool to make their lives easier, rather than feel foolish in front of their friends when they can't answer questions about their home. Also, because of this device, home appliances are able to be manually controlled under different conditions. A single Raspberry Pi 3 board can be used to control several appliances. an inside fire/gas alarm will warn the house if there are any leaks For their well-being and protection, a system that allows users to quickly and easily protect their property is better. Although this feature is capable of locating objects, as well as measuring temperature and humidity, it also detects motion and reports whether something appears to be burning or smells like smoke. This application is ideal for virtually every home or office, no matter how basic or complex it is.

Keywords: Internet of things, Arduino UNO, Sensors, MQ2, Raspberry Pi 3.

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ICSPEC406

WAVELET TRANSFORM BASED IMAGE RETRIEVAL SYSTEM USING INTERACTIVE GENETIC ALGORITHM

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ABSTRACT: As results of advances within the net and new digital image device technologies, the amount of digital pictures created by scientific, academic, medical, industrial, and different applications on the market to users enlarged dramatically. A Content primarily based image retrieval has become very hip system currently days. however the CBIR is that the methodology wherever there square measure several methodologies square measure on the market and therefore the task of image retrieval becomes effectively easier. Here we tend to use completely different feature descriptors like, color, texture and form descriptors to represent low level options of image. There square measure the techniques known as HSV Color remodel and separate riffle remodel (DWT) parts square measure accustomed generate the image. Here, the user directed mechanism for CBIR victimization Associate in Nursing interactive genetic formula (IGA) is planned and enforced. the color attributes just like the mean, variance and image electronic image of a color image square measure used as a options for retrieval.

Keywords:-CBIR, fitness function, IGA, population, crossover, mutation.

ICSPEC407

CENTRALIZED MONITORING AND CONTROLLING OF VARIOUS CROPS IN HYDROPONICS SYSTEM USING IOT

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ABSTRACT: The method of growing plants by providing mineral-rich water solvable nutrients without soil is called Hydroponics. To the roots of plants, nutrient solutions are supplied either in static form or flowing. Hydroponics can be cultivated both in greenhouse and glasshouse environments. In addition to maintaining the greenhouse parameters, monitoring PH value and electrical conductivity(EC) in Hydroponics is another challenge that must be monitored and maintained. As PH value and EC for Hydroponics plants will differ from plant to plant and need to be altered based on the type of plant and its life cycle every two weeks. This project focuses on two tasks; the first is to provide a centralized selection system for selecting the hydroponic system and the crop. This centralized system also suggests incorporating other crops in the same hydroponic system (different crops in one hydroponic system) based on the crop's nutrient requirements and lifestyle. The subsequent one is monitoring and automating the implemented hydroponic system's water temperature, PH, and Electrical conductivity. To transfer the retrieved data from sensors and the harvest information to the cloud and user, IoT is used.

Keywords—Hydroponics, PH, electrical conductivity, IoT

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ICSPEC408

A NEW ADVANCE IDENTIFICATION SYSTEM USING DORSAL HAND VEINS FOR SECURITY RELEVANCE

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ABSTRACT: One of the advance biometric technique was introduced in this paper „Advance identification system using dorsal hand veins for security relevance's", most of the users are worried about now a days a secure process of transactions ,recognition systems ,in this paper we propose a new security based biometric technique for recognition using dorsal hand veins. Main aim of this paper is to design and implementation of identification of a person based on hand veins. Alternative to contact based systems our proposed system to be cheaper and more reliable. We have used infrared images of dorsal hand veins for clear appearance at the time of working in a system. By pre-processing the image, need to find the knuckle profile using two steps like image inversion and grayscale thresholding. To get the significant edges, on the image, image segmentation is performed. Using the filtering techniques, noises in the images can be reduced and finally with morphological steps, pattern of vein is detected. By using image thinning process region of interest is cropped to 1:1 ratio from the vein image detected for comparing on recognition and matching. Vein bifurcations can be found using Triangulation method and also able to find endings using thresholding. Finally images are matched ,used to compare the images with the data base images which already stored. Simulation results are carried out using MATLAB by storing small database.

Keywords: Dorsal hand veins, image processing, vein recognition, triangulation method.

ICSPEC409

IMPLEMENTATION OF CORDIC ALGORITHM USING DYNAMIC MICRO ROTATIONS

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ABSTRACT: In order to perform different mathematical operations, we use a number of elementary functions. These functions may be categorized into two types as simple and combinational functions, based on the number of elementary functions that are involved. Since mathematical operations has become an integral part in implementing many applications on digital systems, the usage and the digital hardware implementation of these elementary functions play a major role in the design of applications. CORDIC is popular algorithm which is used for implementing these functions on digital hardware, as it involves less complexity. There are many variants of CORDIC, which were presented during the past six decades, since J.E Volder has first proposed it. In this paper, a novel method for implementing the CORDIC algorithm using a technique for generating the micro rotations dynamically, is presented. The proposed design is implemented on SPARTAN-6 hardware and various performance parameters such as throughput; power consumption was calculated and compared with some of the existing designs. The experimental results indicate that the proposed design is a much- improved design when compared to the existing designs.

Keywords: Digital hardware implementation, CORDIC algorithm, SPARTAN-6, throughput.

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ICSPEC410

AN INSIGHT INTO GESTURE RECOGNITION USING HIDDEN MARKOV MODEL , CONTINUOUS HIDDEN MARKOV MODELS AND DYNAMIC TIME WARPING

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ABSTRACT: This paper addresses the performance of the recognition of hand gestures. The goal is to provide a comparison of three state-of-the-art techniques for gesture recognition. The models proposed are the Hidden Markov Model (HMM) and Continuous Hidden Markov Model (CHMM) and Artificial Neural Networks(ANN). The algorithms and features proposed for hand gesture recognition are not evaluated on common data. We thus propose to use publicly available databases for our comparison of gesture recognition techniques.

Keywords: Gesture Recognition, Hidden Markov Model, Artificial Neural Network, Dynamic time warping.

ICSPEC411

GDI BASED HAMMING ENCODER AND DECODER FOR LOSSLESS AND ERROR FREE COMMUNICATION

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ABSTRACT: GDI logic is a new technique used for designing low power VLSI circuits. Hamming code encoder and decoder circuit is designed based on Gate Diffusion Input (GDI) logic to achieve error free transmission and reception in digital data communication. This technique provides better tradeoff between power, delay and area compared to other logic styles existing in the literature, while maintaining low complexity of the circuit. A 4-bit Hamming code encoder and decoder circuit is designed and simulated using GDI and CMOS logic styles. Simulations are carried out to study the advantages of GDI logic and CMOS logic in 130 nm technology.

Keywords: low power VLSI circuits, Gate Diffusion Input, Hamming code.

ICSPEC412

SOUND SIGNAL ENCRYPTION AND DECRYPTION USING 2-D CHAOTIC SYSTEM FOR SECURE COMMUNICATION

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ABSTRACT: In this paper, a new 2-D chaotic system is introduced and its equilibrium points are calculated to investigate its stability. The phase portraits and the chaotic waveforms of the system are obtained and presented using MATLAB Simulink technique. Later the system is used for sound encryption and decryption in which XOR operation along with chaotic masking is employed to hide the information sound signal for security and sent in the communication channel. Then the output of this cryptographic algorithm is analyzed and results are shown. Further, it is observed from the security analysis results that the system is efficient for sound (audio) encryption and decryption so that it can be used for secure communication.

Keywords: chaotic system, signal processing, sound encryption and decryption, secure communication.

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ICSPEC413

A NOVEL APPROACH FOR DESIGN AND ANALYSIS OF CMOS DOMINO-LOGIC FOR HIGH SPEED APPLICATIONS

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ABSTRACT: Dynamic logic style is popular due to its fast processing speed and less power dissipation in high performance circuit design as compared to static complementary metal-oxide-semiconductor (CMOS) logic style. However, dynamic logic has less noise tolerance and charge sharing problems and hence it is not widely accepted for all high speed applications. As a consequence, a domino logic circuit is proposed for applications such as high-speed adder, comparator and arithmetic and logic unit (ALU) design. Furthermore, the proposed domino logic circuit provides multi standard advantages such as less propagation delay, less power dissipation and high fan out capability. The proposed circuit is simulated and tested in T SPICE with 45 nm technology. Moreover, it is compared with other domino logic circuits in terms of power dissipation and propagation delay.

Keywords: Dynamic logic, CMOS logic, ALU processor, high fans out

ICSPEC414

A COMPREHENSIVE SURVEY OF DIFFERENT ALGORITHM FOR OPTIMIZATION TO EXTEND THE LIFESPAN OF INTERNET OF THINGS IN 5G NETWORKS

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ABSTRACT: The Internet was initially used to transfer data packets between users and data sources with a specific IP address. Due to advancements, the Internet is being used to share data among different small, resource constrained devices connected in billions to constitute the Internet of Things (IoT). A large amount of data from these devices imposes overhead on the IoT network. Hence, it is required to provide solutions for various network related problems in IoT including routing, energy conservation, congestion, heterogeneity, scalability, reliability, quality of service (QoS) and security to optimally make use of the available network. In this paper, a comprehensive survey of different algorithm on the network optimization in IoT is presented. The paper draws an attention towards the background of IoT and its distinction with other technologies, discussion on network optimization in IoT and algorithms classification . Finally, state-of-the-art-techniques for IoT in particular to network optimization are discussed based on the recent works and the review is concluded with open issues and challenges for network optimization in IoT. This paper not only reviews, compares and consolidates the recent related works, but also admires the author's findings, solutions and discusses its usefulness towards network optimization in IoT. With the development and popularization of 5G networks, the coverage problem of the Internet of Things (IoT) will encounter the massive-node problem. In this paper comparative study on different types of Evolutionary algorithms done which have gained much attention of the researchers as effective methods for solving different optimization problems

Keywords: Congestion, Energy conservation, Network optimization, QoS, Reliability, hybrid algorithm, firefly algorithm, Genetic algorithm (GA), Particle Swarm Optimization (PSO).

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ICSPEC415

ANALYSIS AND SYNTHESIS OF SPEECH BY AN ADVANCED ADAPTIVE SINUSOIDAL REPRESENTATION

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ABSTRACT: This paper investigates common speech signal representations and provides a brief description of the analysis–synthesis stages that correspond to them. The main emphasis is on adaptive sinusoidal representations, with a refined model of speech proposed. Refined adaptive Sinusoidal Representation (R aSR) is the name given to this model. Significant refinements are proposed at both the analysis and adaptive stages based on the performance of the recently proposed adaptive Sinusoidal Models of speech. First, in the analysis stage, a quasi-harmonic representation of speech is used to obtain an initial estimate of the instantaneous model parameters. The adaptive stage then employs an adaptive scheme in conjunction with an iterative frequency correlation mechanism to allow for the robust estimation of model parameters (amplitudes, frequencies, and phases). Finally, after an interpolation scheme, the speech signal is reconstructed as a sum of its estimated time-varying instantaneous components. When compared to state-of-the-art models, objective evaluation tests show that the proposed R aSR achieves high quality reconstruction when applied to modelling voiced speech signals. Furthermore, according to the results of listening evaluation tests, the R aSR achieved transparent perceived quality.

Keywords: Speech analysis, Speech synthesis, Speech representation, Adaptive sinusoidal modeling

ICSPEC416

USE OF IOT FOR HOME AUTOMATION SYSTEM

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ABSTRACT: Advancement in IoT-based application has become the state-of-the art technology among the researcher due to the availability of Internet everywhere. To make the application more user-friendly, web-based, and android based technologies have gained their importance in this cutting-edge technology. In this paper, a smart energy-efficient home automation system is proposed that can access and control home equipment from every corner of the world. For this system, the Internet connectivity module is attached to the main supply unit of the home system which can be accessed through the Internet. For wireless connectivity, the static IP address is used. Home automation is based on the multimodal application that can be operated using the voice recognition command of the user using Google Assistant or through a web-based application. Thus, the main objective of this work is to make our home automation system more secure and intelligent.

Keywords—Home Automation, Relay, Node MCU (ESP8266), IFTTT, Adafruit, Internet of Things (IoT), Google Assistant, Voice Control, Smartphone.

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ICSPEC417

AIR POLLUTION CHECK IN VEHICLES AUTOMATICALLY BY USING GSM

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ABSTRACT: Vehicles have become an integral part of every one's life. Situations and circumstances demand the usage of vehicles in this fast-paced urban life. As a coin has two sides, this has its own effects, one of the main side effects being air pollution. Every vehicle will have emission but the problem occurs when it is beyond the standardized values. The primary reason for this breach of emission level being the incomplete combustion of fuel supplied to engine, which is due to the improper maintenance of vehicles. This emission from vehicles cannot be completely avoided but, it definitely can be controlled. With the evolvement of semi-conductor sensors for detecting the various gases, this paper aims at using those semi-conductor sensors at the emission outlets of vehicles which detects the level of pollutants and also indicates this level with a meter. When the pollution/ emission level shoots beyond the already set threshold level, there will be a buzz in the vehicle to indicate that the limit has been breached and the vehicle will stop after a certain period of time, a cushion time given for the driver to park his/her vehicle. During this time period, the GPS starts locating the nearest service stations. After the timer runs out, the fuel supplied to the engine will be cut-off and the vehicle has to be towed to the mechanic or to the nearest service station. The synchronization and execution of the entire process is monitored and controlled by a micro controller. This paper, when augmented as a real time project, will benefit the society and help in reducing the air pollution.

Keywords: Microcontroller, GSM, Co, Temperature Sensor, GSM.

ICSPEC418

NANOTECHNOLOGY APPLICATIONS FOR POLLUTION CONTROL IN ENVIRONMENT

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ABSTRACT: Environmental pollution has become a global issue in today's world. Environmental pollution is increasing day by day which is caused by toxic chemicals in air, water and soil. This pollution not only results in the destruction of biodiversity, but also the degradation of human health. A new technology that could drastically reduce the amount of pollution by use of nanofibres or nanoparticles in several ways. Nanotechnology offers many advantages to improve existing technologies and create new technology which can be applied in the fields of environment, which includes cleaning up-remediation and purification, the detection of pollutants and contaminants (sensing and detection) and the pollution prevention. Nanotechnology offers a wide range of capabilities and technologies to improve the quality of existing environment.

Keywords – Nanotechnology; biodiversity; nanoparticles; nanofibres; air pollution; water pollution; sensor; remediation.

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ICSPEC419

DEEP CONVOLUTION NEURAL NETWORKS FOR FACIAL EMOTION RECOGNITION FROM VIDEOS

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ABSTRACT: In human computer interaction (HCI) facial emotion expressions is a key component in understanding emotions has been a long standing issue. In this paper by the utilization of a deep convolutional neural network (DCNN) for facial emotion recognition from videos using the Tensor Flow machine-learning library from Google.

Keywords: Docking, Cox-2 Inhibitors , Chalcones**:** Facial emotion recognition, deep convolutional neural network, Tensor Flow, ADFES-BIV, WSEFEP.

ICSPEC420

VISUAL SLAM WITH A SMALL, MONOCULAR CAMERA FOR INDOOR LIVESTOCK AND AGRICULTURAL

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ABSTRACT: Now a days drones are playing important role in real time data collection and decision making. Drones are being used in different fields to make our lives easy,and now it is being used in precision agriculture. In the case of indoor livestock and farming environment this nevertheless due to several challenges and constraint. Due to the GPS unavailability these indoor environments are reduce in physical space with localization problem. So these work would give a forward step to reduce these problem and to start drones for indoor farming and livestock management. To investigate on drone positioning in these workspaces, two visual simultaneous localization and mapping(VSLAM) LSD SLAM and ORB SLAM algorithms were used onboard with monocular camera on a small drone. In a greenhouse and a dairy farm barn with absolute trajectory and the relative pose error were be analyzed several times. The best solution we found for these workspaces is ORB SLAM. With the help of waypoint navigation and generating maps from the clustered areas the algorithms were tested. With in these workspaces it is shown that aerial VSLAM could be achieved and from using affordable and off the shelf drone technology the cattle monitoring could be achieved.

Keywords: livestock, farming ,drones, visual SLAM, UAV

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ICSPEC421

CLUSTER BASED ROUTING PROTOCOLS FOR NON UNIFORM TERRAIN STRUCTURES : A SURVEY

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ABSTRACT: Wireless Sensor Networks are operated with low energy, and they are operated with low data rate. Today present world is completely depends on sensory actions, WSN are converting mechanical actions into subtle sensory reactions. The WSN consists of so many problems from initial stage to final stage i. e deployment to implementation level. Operating WSN in flat terrain structures in not an issue, but the same implementation has to be done in non-uniform terrain structures is a complex issue. So this paper discussed on survey on clustering and routing protocols designed for non-uniform terrain structures.

Keywords: Wireless Sensor Networks, non-uniform terrain structures, clustering protocols.

ICSPEC422

INTELLIGENT TRUST BASED ROUTING PROTOCOL FOR ENERGY EFFICIENT WSN

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ABSTRACT: Wireless Sensor Networks are equipped with multiple sensors, processor, transceiver, power unit, Memory. This WSN is suffered with lack of lifetime, energy consumption, throughput, and QOS. Still these parameters are not optimized even a tremendous research is going on from decades. It is the rapid growing field where most of the applications are replaced with WSN. The deployment in non-uniform terrain structures is a complex challenge and the protocols used for these applications are unsuccessful in giving optimized results. In this paper an intelligent routing protocol has been proposed to address and solve the issues in WSN and to upsurge the network lifetime.

Keywords: Wireless Sensor Networks, lifetime, energy consumption, routing protocol.

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ICSPECSH001

DESIGN, SYNTHESIS AND MOLECULAR MODELING STUDY OF NEWELY SYNTHESIZED CHALCONE LINKED ISATIN DERIVATIVES AS SELECTIVE COX-2 INHIBITOR AND ANTI-INFLAMMATORY AGENT

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ABSTRACT: Arachidonic acid metabolism is a important process in production of key lipid mediators which can play a key role during inflammation. The successful treatment of inflammation, arising due to the production of prostaglandins from arachidonic acid metabolism mediated by cyclo-oxygenase, which are two types and these are cox-1 and cox-2.In which cox-2 is responsible for inflammation. The inhibition of enzymes involved in arachidonic acid metabolism has been considered as synergistic anti-inflammatory effect with improved spectrum of activity. A series of novel Chalcone linked isatin derivatives were investigated for anti-inflammatory related activities such as cyclo-oxygenase inhibition. The results also showed that the chalcone derivatives with isatin moiety seem to be significant for inhibition of enzymes. Molecular docking experiments were carried out to elucidate the molecular aspects of the observed inhibitory activities of the investigated compounds. Present study findings increase the possibility that these newely synthesized chalcone linked isatin derivatives might act as a useful starting material for the design and synthesis of improved anti-inflammatory agents.

Keywords: Docking, Cox-2 Inhibitors , Chalcones

ICSPECSH002

DISTINCTIVENESS OF LITERATURE IN THE PANDEMIC PERIOD

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ABSTRACT: Literature reflects the society in all its aspects; it is generally called the mirror of the society. Literature covers the major genres of poetry, drama, and novels. Literature reflects thebad and good of the particular society and thus helps the people of the society to recognize what they are going through and how they could rectify the activities that are misplaced or not in order. It has been said in the Holy Book about food that It is not good to eat too much honey, nor is it honorable to search out matters that are too deep. But people started eating everything which is causing the whole human to fall into this pandemic called COVID-19, where nobody is responsible for this chaotic situation. The appreciable thing is here, everybody standing for each other. Since literature reflects or is the mirror of society, it has a very important place right from history. It is a reflection of human action in that particular society and therefore, one would be able to clearly understand one's weaknesses and strengths. Every action is captured in literature.

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ICSPECSH003

A COMPARATIVE STUDY ON FACE MASK DETECTION USING ARTIFICAL NEURAL NETWORK TECHNIQUES

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Abstract: The infectious corona virus (COVID'19) disease globally arises as a second wave to affect human beings with the mutation of its nature. In this pandemic situation, although we are following thermal checking, use of sanitizer and social distancing it is mandatory to wear a face mask to secure ourselves from this contiguous spreading disease. This makes us a hindrance to identifying the person's face which is behind the mask and also has to identify the unmasked person to alert them to wear a mask to protect themselves and others. The main purpose of this research paper is to highlight the artificial neural network techniques (Convolution Neural Networks, Open CV, Principal component Analysis, K-Nearest neighbor, Yolo, and MobileNet2) and to review the comparative analysis for the face mask detection algorithms. The first step is to train the machine with two datasets, one with a set of faces with a mask and another is without the mask. In this survey paper, we inspect and compare the related issues and advantages of the machine and deep learning techniques. Finally, we outline the relative output for further study.

Keywords: mutation**,** thermal checking, K-Nearest neighbor.

ICSPECSH004

SYNTHESIS OF METHOXY ISOXAZOLES FROM BENZOSUBERONES

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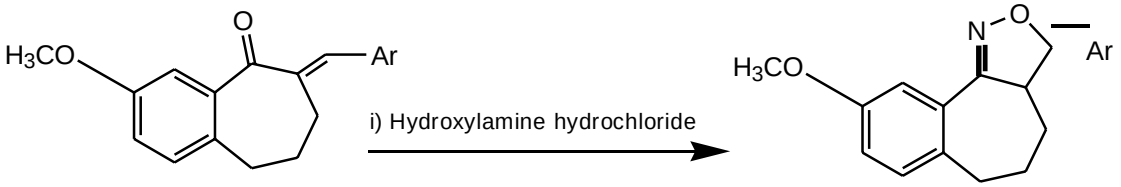
ABSTRACT:9-Methoxy-3-phenyl-3a,4,5,6-tetrahydro-3H-2-oxa-1-aza-benzo[e]azulene (**6a-g**) were obtained by the condensation of 3,4-dimethyl-6,7,8,9-tetrahydro-5*H*-bezo[a]cyclohepten-5-ones (**5**) with appropriate aromatic aldehydes. Cycloaddition of **6a-g** with hydroxylamine hydrochloride in alkaline medium yielded 8,9-dimethyl-3-phenyl-3a,4,5,6-tetrahydro-3*H*-benzo[6,7] cyclohepta[c]isoxazole derivatives **7a-g**.



Key words: Benzosuberone, isoxazole, fungicides, bactericide, type 2 diabetes mellitus.

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ICSPECSH005

MICROWAVE-ASSISTED SYNTHESIS OF ISOXAZOLES

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ABSTRACT: An efficient synthesis of isoxazoles have been achieved by using the microwave heating in comparison to the conventional heating. In this work compound 9-Methyl-3-phenyl-3a,4,5,6- tetrahydro-3H-2-oxa-1-aza-benzo[e]azulene (3a-g) were obtained by the condensation of 3,4- dimethyl-6,7,8,9-tetrahydro-5H-bezo[a]cyclohepten-5-ones (5) with appropriate aromatic aldehydes. Cyclo addition of 2a-g with hydroxylamine hydrochloride in alkaline medium under microwave irradiation. yielded 9-methyl-3-phenyl-3a,4,5,6-tetrahydro-3H-benzo[6,7] cyclohepta[c]isoxazole derivatives 3a-g. The result shows that the time taken for the reaction was reduced from the conventional 1-2 hours to 60–120 seconds. The yield of the compounds in the conventional heating was moderate while the highest yield of 90–98% was observed in MWI method. The structure of the compounds was characterized by their IR, 1 H-NMR spectral data.

ICSPECSH006

GREEN SYNTHESIS, OPTICAL, STRUCTURAL, MORPHOLOGICAL PROPERTIES OF MAGNETIC IRON OXIDE NANOPARTICLES

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ABSTRACT : Herein, we present a simple and eco-friendly process for the green synthesis of magnetic iron oxide (Fe_3O_4) nanoparticles using Callistemon viminalis leaf extract as reducing and capping agent. The aqueous solution of $FeCl_3$ and $FeCl_2.2H_2O$ has been exposed to aqueous leaf extract of Callistemon viminalis by the following the reduction of exposed compounds, iron oxide magnetic nanoparticles having average size of 10 nm were obtained. The obtained Fe_3O_4 magnetic nanoparticles were characterized using UV-vis spectroscopy, X-ray diffraction, and transmission electron microscopy. This work is strongly suggesting to a new and promising biosynthetic catalyst which shall be useful for the industrial synthesis of nanoparticles. The polyols and the heterocyclic components were believed to be responsible for the formation and stabilization of iron oxide magnetic nanoparticles, respectively.

Key Words: Fe_3O_4 magnetic nanoparticles, Callistemon viminalis leaf extract, powder XRD, TEM, EDX

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ICSPECSH007

SEIDEL ENERGY AND SEIDEL MATRIX ENERGY OF EULER TOTIENT CAYLEY GRAPH

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ABSTRACT: The notation, where is positive integers. Let be the set of all integers which are less than and relatively prime to . That is and , where is an Euler totient function. The Euler totient Cayley graph is defined as the graph whose vertex set is and the edge set . In this paper the Spectrum, Seidel Energy and Seidel Matrix Energy of an Euler totient Cayley graph in various cases of are discussed.

Keywords: Euler totient Cayley graph, Spectrum of a graph, Seidel Energy of a graph, Seidel Matrix Energy of a graph.

ICSPECSH008

STUDY OF FERROELECTRIC AND PIEZOELECTRIC PROPERTIES OF RF PUTTERED $PBZR_XTI(1-X)O_3$ THIN FILMS

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ABSTRACT : In the present work, we report the deposition and characterization of $PbZr_xTi_{1-x}O_3$ (PZT) thin films by RF magnetron sputtering. Piezoelectric, ferroelectric and structural properties of (110) oriented 400nm (PZT) thin films on (001) silicon substrates were studied. The surface morphology of the film was examined using SEM studies. Dielectric, piezoelectric and ferroelectric properties have been investigated in detail. The measurement of dependence of x is explained by studying an abrupt transition from rhombohedral phase to tetragonal phase (when x becomes smaller than $x \approx 0.45$). The growth of PZT thin films with a large $e_{31,f}$ is significant. The maximum figure of merit has been calculated near the phase boundary for $x \approx 0.45$.

Keywords: XRD, SEM, Piezoelectricity, Ferroelectricity