ICCCEEE - 2020

AICTE Sponsored

International Conference on Computing, Communication, Electrical and Electronics Engineering

Kurnool, Andhra Pradesh
10th - 11th January, 2020

Organized by:

G.Pulla Reddy Engineering College (Autonomous), Kurnool
In Association with

Institute For Engineering Research and Publication [IFERP]

Rudra Bhanu Satpathy

Chief Executive Officer

Institute For Engineering Research and Publication.

On behalf of *Institute For Engineering Research and Publications (IFERP)* and in association with *G.Pulla Reddy Engineering College (Autonomous),* Kurnool, Andhra Pradesh. I am delighted to welcome all the delegates and participants around the globe to *G.Pulla Reddy Engineering College (Autonomous), Kurnool, Andhra Pradesh* for the *"International Conference on Computing, Communication, Electrical and Electronics Engineering (ICCCEEE - 2020)"* Which will take place from *10th - 11th January'2020*

It will be a great pleasure to join with Engineers, Research Scholars, academicians and students all around the globe. You are invited to be stimulated and enriched by the latest in engineering research and development while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, coordinator (**IFERP & GPREC**) and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at *Kurnool, Andhra Pradesh*

Sincerely,

Rudra Bhanu Satpathy

Preface

The **"*International Conference on Computing, Communication, Electrical and Electronics Engineering (ICCCEEE - 2020)*"** is being organized by **G.Pulla Reddy Engineering College (Autonomous),** Kurnool, Andhra Pradesh with the grant received from AICTE, New Delhi under the scheme "Grant for Organizing the Conference (GOC)" in Association with **IFERP-Institute For Engineering Research and Publications** *on the 10th – 11th January, 2020.*

G.Pulla Reddy Engineering College (Autonomous) has a sprawling student –friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the major city of Kurnool in Andhra Pradesh.

The **"*International Conference on Computing, Communication, Electrical and Electronics Engineering*"** was a notable event which brings Academia, Researchers, Engineers, Industry experts and Students together.

The purpose of this conference is to discuss applications and development in area of **"Computing, Communication, Electrical and Electronics Engineering"** which were given International values by **Institute for Engineering Research and Publication (IFERP).**

The International Conference attracted over 270 submissions. Through rigorous peer reviews 110 high quality papers were recommended by the Committee. The Conference aptly focuses on the tools and techniques for the developments on current technology.

We are indebted to the efforts of all the reviewers who undoubtedly have raised the quality of the proceedings. We are earnestly thankful to all the authors who have contributed their research works to the conference. We thank our Management for their wholehearted support and encouragement. We thank our Principal for his continuous guidance. We are also thankful for the cooperative advice from our advisory Chairs and Co-Chairs. We thank all the members of our local organizing Committee, National and International Advisory Committees.

ICCCEEE - 2020

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
Ananthapuramu - 515 002 (A.P.) India.
(Established by Govt. of A.P., Act. No. 30 of 2008)

Prof. M. Vijaya Kumar
M.Tech., Ph.D.

Registrar

MESSAGE FROM REGISTRAR

I am delighted to know that G.Pulla Reddy Engineering College (Autonomous), Kurnool is organizing **AICTE Sponsored International Conference on Computing, Communication, Electrical and Electronics Engineering (ICCCEEE-2020)** on 10th & 11th January,2020. My hearty greetings to the Management, Principal and Organizing team of ICCCEEE-2020 for organizing such mega event in the campus These technical conferences will ensure the Engineering community to update the novelty and advancements in Science and Technology and provide the opportunities for more innovations and collaborative research. I acknowledge and appreciate the endeavors made by the Management, Principal and organizers who involved in it.

I wish all the delegates who take part in this mega event to have an outstanding research experience by acquiring more innovative ideas and skills. And this conference may pave the way for collaborative research and development for concrete Nation building with technological advancements in every walk of our life. I wish the Conference, ICCCEEE-2020 more successful.

Prof. M. Vijaya Kumar
Registrar

Message from Hon'ble Chairman

On behalf of the ICCCEEE-2020 organizing committee, I am honoured and delighted to welcome you to a Two day AICTE sponsored International Conference on Computing, Communication, Electrical and Electronics Engineering (ICCCEEE-2020). I am very much thankful to AICTE, New Delhi which provided grant to organize this conference under the scheme "Grant for Organizing Conference (GOC)". I believe that our technical program is rich and varied with 5 keynote speeches by eminent speakers and around 130 technical papers split between 3 parallel oral sessions each day.

As the Chief Patron of ICCCEEE-2020, I know that the success of the conference depends ultimately on many people who have worked in planning and organizing both the technical program and supporting social arrangements. In particular, we thank the Session Chairs for their wise advice and brilliant suggestion on organizing the technical program; the technical Program Committee for their thorough and timely reviewing of the papers, and our association with IFERP, Chennai successively for the second time helped us to make ICCCEEE-2020 more successful.

Recognition should go to the Convener and local Organizing Committee members who have all worked extremely hard for the details of important aspects of the conference programs and social activities. I wish all the delegates a pleasant two day visit to our GPREC and I hope you all get a rich exposure to the research advancements by attending this conference.

P.Subba Reddy
Chairman, GPREC

Message from the Director, GPREC

Welcome to the Proceedings of AICTE sponsored International Conference on Computing, Communication, Electrical and Electronics Engineering (ICCCEEE-2020). Ensuring a high quality conference requires accepting papers that pass through a rigorous review process. This year, a large number of papers were submitted to the conference. The papers came from academia and industry. We have 3 technical tracks and 5 keynotes. The conference lasts for 2 days and provides abundant activities including presentations on various research contributions on the first day & second day, selection of the best research paper awards.

We would like to express our deepest appreciation to the authors for their great efforts in delivering interactive and excellent presentations that address the learning needs of all levels, undergraduates, graduates, and professionals. It is because of their excellent contributions and hard work that we have been able to prepare these proceedings.

We would like to thank all our keynote speakers who made all the efforts to synthesize the materials and their wide and rich experiences to deliver distinguished talks. We are very much grateful to our track chairs for their great efforts in evaluating the research contributions in their tracks. Finally, we hope that the participants enjoy the outstanding conference program of AICTE sponsored International Conference on Computing, Communication, Electrical and Electronics Engineering (ICCCEEE-2020) that we create for them.

Dr. P. Jayarami Reddy
Former Director, GPREC

Message from Principal, GPREC

It is my great pleasure to welcome all the delegates to AICTE sponsored International Conference on Computing, Communications, Electrical and Electronics Engineering (ICCCEEE-2020) which takes place in G.Pulla Reddy Engineering College (Autonomous), Kurnool, Andhra Pradesh, India on 10th & 11th January, 2020. I sincerely convey my thanks to AICTE, New Delhi for accepting our proposal to organize International Conference and providing grant under "Grant for Organizing Conference (GOC)" scheme. It has been a real honor and privilege to serve as the Patron of the conference. Over the past 35 years of its existence, GPREC has provided a cross-disciplinary venue for researchers and practitioners to address their valuable research contributions.

The five Keynote presentations will provide ample opportunities for discussions, debate and exchange of ideas & information among conference participants. The conference would not have been possible without the enthusiastic and hard work of a number of colleagues. We would like to express our appreciation to the Convener, Steering Committee Chairs & members and organizing committee for their valuable contribution in assembling the high quality conference program. We also thank the individual track chairs.

A conference of this size relies on the contributions of many volunteers, and we would like to acknowledge the efforts of our TPC members and referees and their invaluable help in the review process. I sincerely acknowledge the support by IFERP, Chennai for their association with us for the second time in organizing this conference successfully. We are also grateful to all the authors who trusted the conference with their work. I sincerely convey my special thanks to the eminent Keynote Speakers for sharing their views on current research topics.

We look forward to an exciting two day conference with insightful presentations, discussions, and sharing of technical ideas with colleagues. We thank you for attending the conference and we hope that you enjoy your visit to GPREC, Kurnool.

Dr.B.Sreenivasa Reddy
Principal, GPREC

Message from Convener

Welcome to ICCCEEE-2020! The ICCCEEE-2020 conference has established itself as a worldwide reference for the dissemination of high-quality research in all aspects of Computing, Communications, Electrical and Electronics Engineering and for fostering interaction and exchange of ideas. I sincerely convey my special thanks to AICTE, New Delhi for making this conference possible by providing the Conference Grant under "Grant for Organizing Conference" scheme. The research contributions submitted to the conference span 3 tracks. The large number of submissions in this conference not only provided an excellent opportunity for a high-quality program but also called for a demanding and laborious paper evaluation process. The eminent members of the Technical Program Committee worked efficiently and responsibly for reviewing the papers. The reviewing and selection process led to around 110 regular papers for the conference, resulting in an acceptance rate of 41%.

A limited number of papers are planned for presentation in each session to allow the conference participants to benefit from further worthwhile and stimulating research results. The main program of ICCCEEE-2020 covers two days and includes streams of two sessions per day in each track. The program is further enriched by five keynote presentations offered by world-renowned researchers in the field. We are grateful to all authors who trusted us with their work; without them there would be no conference.

The final result would not have been possible without the dedication and hard work of many colleagues and the association with IFERP, Chennai who made the contributions more worthy in making the necessary arrangements for reviewing the papers and providing the support for journal publications. We are very much thankful to Session Chairs, for their invaluable advices and evaluating the research submissions to the Conference.

We are very much excited to welcome you all to ICCCEEE-2020 and we hope that this two day conference will bring a rewarding experience and a pleasant visit to our GPREC, Kurnool.

Dr.S.Nagaraja Rao
Professor & HOD of ECE

ICCCEEE-2020

International Conference on Computing,

Communication, Electrical and Electronics

Engineering

Keynote Speakers

Dr. M. Ramasubba Reddy

Professor

Head of Laboratory, Biomedical Engineering Group

Department of Applied Mechanics

Indian Institute of Technology Madras

Chennai - 600036, INDIA.

BIOGRAPHY

An experienced teacher cum researcher in the areas of BiomedicaI Instrumentation, Signal and Image Processing with B.Tech. in Electronics and Communication Engineering and Ph.D. in Biomedical Signal processing is currently working as professor of Biomedical Engineering at the Department of Applied Mechanics, Indian Institute of Technology Madras, Chennai, India.

Prof. Wathiq Mansoor

Professor

Chair of Electrical Engineering Department

Director of Entrepreneurship and Innovation Center

University of Dubai, UAE

MESSAGE

I would like to welcome you to the International Conference on Computing, Communication, Electrical and Electronics Engineering [ICCCEEE - 2020]. The conference is an excellent opportunity for researchers from academia and industry worldwide to meet and discuss the latest findings in electrical and computer engineering fields that contribute to the latest technologies advances that the world is benefiting from in improving life on earth. I will be delivering a speech on Innovation and Entrepreneurship within the university echo system that benefit students to be graduated with skills that enable them to build a startup companies and providing jobs opportunities rather than just looking for job opportunities.

Prof D.V.L.N. Somayajulu

Director

IIITDM, Kurnool

BIOGRAPHY

He is having around 30(thirty) years of experience in the profession of Teaching, Research, Consultancy and Outreach activities at National Institute of Technology, Warangal. Currently, he is working as Director for MHRD CFTI Indian Institute of Information Technology Design and Manufacturing (IIITDM) Kurnool. Prior to joining this position, he served as Chair for MeitY Sponsored Project Electronics & ICT Academy established at NIT, Warangal during 2015-19 and Professor of Computer Science and Engineering during 2006 -2015. Under his leadership, the academy has conducted 225 FDPs/Workshops, 30 MoUs with institutions/industries, one BOSSMOOL training in association with IITM, established one seminar hall, two interactive classrooms, meeting and office and generated revenue of Rs 2.25 crores.

Sanjay Hotwani

Senior Manager,
Artificial Intelligence and Data Science, Cognizant Technology Solutions, Bengaluru,
Karnataka, India

MESSAGE

In this age of rapidly changing technologies, it is essential for all professionals to keep abreast of the latest developments, emerging trends and techniques. In this regard, International Conference on Computing, Communication, Electrical and Electronics Engineering [ICCCEEE - 2020] provides an ideal platform to all the professionals from Academia and Industry to share their knowledge and experience. Also various sub themes of the conference will offer delegates many opportunities to learn new things and apply the same in their workplaces.

This Conference will provide an excellent international forum for sharing innovative views, knowledge and results in recent challenges in Engineering Technology. The aim of the Conference is to provide a platform for researchers and practitioners from both academia as well as industry to meet and share cutting-edge development to culminate and contribute holistically in all countries world over to deal with ever-increasing demand of the technological advancements for sustainable development of the world. With the acceleration in the efforts of interaction of almost all Industries and Institutes in the recent times by the initiative of various Government and Non-Government organizations throughout the world, I hope that this conference provides informative and innovative ideas to all the participants. Ground-breaking deliberations of various scholars and experts will further inspire the current and future generations to contribute their best. I look forward to the recommendations of the deliberations as useful inputs towards better understanding of the problems, issues, challenges and probable initiatives.

I extend my warm greetings and best wishes to G.Pulla Reddy Engineering College (Autonomous), Kurnool

In Association with Institute For Engineering Research and Publication (IFERP) and all the participants for the grand success of the above Conference.

Dr. Parag Chatterjee

Researcher-Professor, National Technological University

(Universidad Tecnológica Nacional), Buenos Aires, ARGENTINA

BIOGRAPHY

His current research is focused to the aspects of computational intelligence and eHealth, related to the trans-disciplinary areas of IoT, AI and data analytics.

He is the editor of the book "The Internet of Things" featuring 21 chapters by authors from 15+ countries, published by CRC Press (Taylor & Francis). Also he is the associate editor of the Internet of Things journal (Elsevier) and member of the editorial board of several international journals. He is a member of the IoT Council and chair of the ISOC - IoT SIG's Working Group on IoT and Academia.

Chatterjee has delivered a TEDx talk on AI and healthcare in 2019 and also delivered invited talks and keynotes over the years in international conferences and events like ExpoInternet LatinoAmerica (Argentina), IoT Week Geneva (Switzerland), and in reputed institutions like the Indian Institute of Science – IISc Bengaluru (India) and University of Rome Tor Vergata (Italy).

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ICCCEEE-2020

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Associate Professor , Dept. of Computer Science and
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ICCCEEE - 2020

International Conference on Computing, Communication, Electrical and Electronics Engineering

Kurnool, Andhra Pradesh, 10th - 11th January, 2020

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ABSTRACTS

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Time of Arrival Estimation of Ultra Wideband Indoor Wireless System

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Abstract:--
      The time of arrival (TOA) estimation is a very challenging task due to the high dispersive nature of ultra wideband channels, where the leading edge path is not necessarily the strongest path. The nyquist rate sampling of UWB is difficult due to the high bandwidth of UWB signal. So accurate ranging methods at lower sampling rates is needed to be designed. In this paper we are estimating TOA values using samples of the received signal after energy detection. Performance of different time of arrival estimation algorithms are compared via simulations using IEEE 802.15.4a channel models.

A Cloud Based Framework for an Efficient Health Care Management

B. Santhosh Kumar, Associate Professor, Department of CSE, G Pulla Reddy Engineering College, Kurnool.
P. Praveen Yadav, Assistant Professor, Department of CSE, G Pulla Reddy Engineering College, Kurnool.

Abstract:--
      The work mainly focuses on building a framework for hospitals so that the patient's information can be exchanged with the doctors in a more secure way with the help of cloud technology. It also reduces the operational expenditures of the hospitals by developing a cloud environment which can be adapted according to the individual hospital's requirements. By employing the virtualization concept supported in the data centers in the cloud the processing speed can be improved. An API can be build which can be extended by future applications that involve in cloud based health care management.

Keyterms:--
      API, Cloud, Virtualization.

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A Survey on Iris Recognition using Machine Learning

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Abstract:--
      Iris Recognition, a comparatively new biometric technology, It has nice benefits such as security, variability, stability and is encouraging for prime security environments. Iris recognition system is used to analyze various segmentation / localization techniques, removing noises, normalization, classification technique, feature extraction and pattern matching. The acquired iris are affected by capture distance, rotation, blur, low contrast and creating noises that disturb the iris recognition systems. Besides delineating the iris region, usually pre-processing techniques are used and algorithms are used such as Neural Network, convolutional neural network(CNN), multi-scale convolutional network(MCNN). Our proposed algorithm shows better classification results as compared to the other iris recognition approaches.

Keywords –
iris recognition, neural network, convolutional neural network, multi-convolutional neural network, iris segmentation, iris normalization, feature extraction, pattern matching.

Evaluation of the Functionality of Websites

C. Purushotham, Research Scholar, Rashtriya Sanskrit Vidyapeetha, Tirupati

G.Sreedhar, Research Guide, Professor, Rashtriya Sanskrit Vidyapeetha, Tirupati

Abstract:--

This paper proposes the evaluation criteria methods for functionality of website. The functionality criteria include accessibility, broken links (errors), compatibility, search, standards and usability. These dimensions together with their comprehensive indicators and checklists can be used by web designers and developers to make websites function to its full potential.

Index Terms—

accessibility, broken links, compatibility, functionality, search, standards, usability.

Compressed Code for RISC Processor (CCRISC) in Real-Time Embedded Systems

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Abstract:--
Embedded systems plays a vital role on everyone's life and people are extensively used this technology. People are looking for embedded system based devices with Very Cost effective and compact ioccupancy at extensive portion of iany device. Research on challenges, performance improvement requirement on embedded programs are growing rapidly. Present challenge is reducing size of code with the support of compression and decompression engines provided an optimized solution to embedded systems. Memory utilization plays an essential role in embedded system design. Embedded systems major issue is limitations on available memory. A higher memory can lodge more applications but incurs high cost, space and energy requirements. Compression of codes for embedded devices cares to discourse this issue by sinking the size of code for embedded applications. Scope for the researchers to develop a better performance based approach for code compression that can optimize in code size with better performance iof any system. This research proposes an effective code-compression technique, with the improved compression ratio.

Index Title –
 Code Compression, Embedded Systems, Cache Line Address, Line Address Table

Performance Analysis of Direct Torque Controlled Induction Motor Using Artificial Neural Networks

Dr. J. Bhavani, Associate Professor, VNRVJIET, Telangana
Devika Uggirala, M.Tech Scholar, VNRVJIET, Telangana
Dr.T.Nireekshan, Associate Professor, VNRVJIET, Telangana

Abstract:--
This paper presents the controlling of induction motor with DTC method by using ANFIS controller Fuzzy rules were implemented and better results were shown. This paper developed based on DTC method and SVPWM method. Description about DTC and SVPWM was also discussed below. Advantages of ANFIS over ANN also shown. This paper was implemented in MATLAB/SIMULNK software.

Keywords:

DTC-Direct Torque Control, ANN-Artificial neural Network, ANFIS-Adaptive Neuro-Fuzzy Inference System, SPWM-Sinusoidal Pulse Width Modulation, SVPWM-Space Vector Pulse Width Modulation, THD-Total Harmonic Distortion.

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Advance Rescue System for Saving Human Life

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E.S.kishor, ECE, MRITS, Hyderabad, India

Abstract:--
In the last decades, it is investigated that numerous incidents notified on unbounded bore wells are the reason for dead walls for humankind. In modern times the great number of incidents of humankind's downfall in open borewell is displayed in electronic and media. Now countless instances are notified that rescue processes are executed by massive machines and required more human interference to save humankind as these incidences occur in the remote and very dense area normally rescuing humankind has been time destroying procedure, cost significant and extremely insecure. In the proposed paper we used an extraordinarily and efficient method to rescue humankind from borewell; using IOT based system. In the proposed approach, we used Raspberry pi for powerful wireless communication. A different stepper motor is employed with wooden structures that safeguard humankind. This is monitored by the human interface, providing the appropriate command and instruction. The gripper circuit designed are connected with stepper motor for proper gripping of the humankind safety precautions.

Index Terms—
    Rescue system, borewell, Rope, humankind

Enhanced Implementation of Activity Location Recognition for Smart Phone Devices

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Abstract:--

Area based administrations enable cell phone clients to get to different administrations in light of the clients' present physical area data. Way basic applications, for example, store network check, require a sequential requesting of area proofs. It is a noteworthy test in circulated and client driven models for clients to demonstrate their quality and the way of movement in a security ensured and secure way. Up until now, proposed plans for secure area proofs are generally subject to altering, not impervious to arrangement assaults, don't offer protection of the provenance, and are not sufficiently adaptable for clients to demonstrate their provenance of area proofs. In this paper, we show WORAL, an entire prepared to-send system for producing and approving witness situated declared area provenance records. The WORAL system depends on the declared area confirmation convention and the OTIT demonstrate for producing secure area provenance on the cell phones. WORAL permits client driven, arrangement safe, alter apparent, security ensured, obvious, and provenance saving area proofs for cell phones. This paper exhibits the schematic improvement, possibility of utilization, near preferred standpoint over comparable conventions, and usage of WORAL for smart phone gadget clients including a Google Glass-based customer for upgraded ease of use.

Keywords –

Location assertion, location proof, location provenance, location security, witness endorsement, WORAL.

QIDS for n Party Secret Sharing using GA

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Abstract:--

Security plays a major role in network communication. With the advances in the field of security and communication technology new trends have evolved for secured transmission. Quantum communication is one such advancement where the laws of physics and mechanics are combined for achieving security in transmissions. Sometimes a secret needs to be shared by a group of users. But any of the user may me malicious. Little research is done to find methods where a secret is shared by a group of users and no single user have complete authority on the secret key. Here we proposed a Quantum intrusion detection system using GA to punish the malicious nodes and when finally ignore them from the communication network. In the proposed qIDS n party message sharing protocol one system distributes the message to n users such that any subset of users can construct the secret like in [28].

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Random PWM tecniques to reduce Total Harmonic Distortion for Cascaded Three-level Inverter Fed Induction Motor Drive

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Abstract:--

Acoustic noise becoming ever more obnoxious radiated by voltage source inverter fed induction motor drive in modern and industrial applications. The drive utilized for industrial and modern applications should use "spread spectrum" innovation known as Random PWM algorithms where acoustic noise emanating through the duck work is a very critically concerned. This paper illustrates three types of random PWM control algorithms with fixed switching frequency namely 1) Random modulating PWM 2) Random carrier PWM and 3) Random modulating-carrier PWM. The spectrum plots of the motor stator current demonstrate the strength and robustness of the proposed PWM algorithms. To affirm the proposed algorithms, experimental tests have been conducted using dSPACE rt1104 control board on a v/f control three phase induction motor drive fed by DC link cascaded multilevel inverter.

Keywords:

Multilevel inverter, Acoustic noise, CSVPWM, Total Harmonic Distortion, Random PWM algorithm.

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Efficient Key Data List for Enhancing Symmetric Read – Write Page Access

Dr. S.M Shamsheer Daula, G. Pulla Reddy Engineering College (Autonomous): Kurnool

Abstract:--

In the adoption of NAND devices as a storage medium, The page replacement plays a crucial role within NAND devices as they contribute towards the performance of the system. Numerous algorithms have been proposed over the years to tackle the issues related to NAND memory based flash devices. Issues such as asymmetric read write speeds and erase before write operations. However, the performance can be further enhanced by combining certain features within these algorithms. The main drawback of NAND devices is the update operation wherein a page needs to be updated. The unit of operation to read and write a page is at the page level while the erase operation is done. The buffer is divided into mixed and cold clean list. The algorithm also contains a methodology list to maintain a history of recently evicted pages. the experimental evaluation of GASA compared with previous algorithms is provided and discussed with a sub paging mechanism that may further contribute towards an improvement in its performance.

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Design CuO-doped SnO$_2$ Thick film Gas Sensor for H$_2$S Using ANN

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Dr. S. Kannan, MRITS, ECE, Hyderabad, India.
Harish Reddy, MRITS, ECE, Hyderabad, India.

Abstract:--
      Environment cause for concern stirred up a greater interest in the expansion of gas sensors for toxic gas detection The semiconductor materials and metal oxide material are found to be appropriate for the fabrication of thick film gas sensor. The suitability of these materials is because the cost was very low as compared to other materials. Nevertheless, different techniques are available for gas detection, solid-state gas sensor offer a better choice due to their rugged monitoring construction and sufficiently low cost. Among the various micro-technologies used for fabrication of gas sensors thick film sensors offer benefit over other technologies in terms of cost, strength, less susceptibility to contamination, more sensitivity, high productivity and automation along with the short time required to pass from prototypes to products. Some disadvantages associated with thick film sensors are their low selectivity and high power consumption. The Internet of Things (IoT) is the current development in healthcare and indoor air quality monitoring expands the market demand for miniaturized gas sensors. Metal oxide gas sensors based on commonly used micro hotplates fabricated with a micro-electro-mechanical system (MEMS) technology dominate the market due to their balance in performance and lower cost. Gas sensors have been mostly applied in different fields, such as agriculture, automotive industry, home automation system for indoor air quality monitoring and environmental monitoring. The 1% CuO doped SnO2 based thick film fabricated sensors reaction with H2S toxic gas (250 ppm-1500 ppm) was tested in the temperature range of 150 and 350˚C.

Key words :
      Artificial Neural Network (ANN), Thick film gas sensor, Sensitivity, Neural Network (NN)

Prediction of Technical Education Student Performance using ARM

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Abstract:--
From the last few years, statistical techniques are utilized to analyze the Performance of Students in Academics by considering some parameters. In Present days because of state and central governments schemes, technical education is having admissions from more rural area students. In the same manner urban development also having influences in technical education admissions. This paper focuses implementing association rule mining to identify powerful rules from the existing data, which is used to discover the importance to the student performance related to the instructive environment where they will study. We have recognized the association among dissimilar attributes of educational background i.e., college locality, college type, diverse societal groups, dissimilar courses etc., and thereby dig up powerful association rules. For the administrators of technical education, from the existing data the unidentified rules are extracted and analyzed to take better decisions for growth of the institutes. These rules are also useful for a right perceptive of fire instructive location aids in course structure and other required up gradations to get better students' educational performance. This paper focuses on association rule mining to identify powerful rules from the existing data of higher education institutes which will be used to know the success patterns of students of different colleges based on societal groups. Additionally we have analyzed processed the available data to find the pattern of support for these rules from time to time.

Key words:
Student Academic Performance, Data Mining, Technical Education, Association Rule Mining, Powerful rules

Theorems on Weakly Standard Rings

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Abstract:--

       A ring R is called weakly standard if it is flexible and the commutators lie both in left and middle nucleus. In this paper it will be proved that a prime non associative weakly standard ring is strongly (1,0) ring and also a strongly   (-1,1) ring. At the end of this paper an example of weakly standard ring is given ,which is neither associative nor commutative and moreover this ring is not alternative.

Keywords—

Non associative ring, associator, commutator, ideal, center, nucleus, , weakly standard ring , strongly (1,0) ring, prime.

Performance Analysis of InAlN/GaN MOSHEMT for High Power RF Applications

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V.Vijay Kumar Raju, Department of Electronics and Communication Engineering, Anil Neerukonda Institute of Technology and Sciences, Visakhapatnam, India.

MOHD Wasim, Department of Electronics and Communication Engineering, Lovely Professional University, Jalandar, India.

Abstract:--

We presents DC and RF performance of 30 nm gate length AlN spacer based InAlN/GaN based MOSHEMT with InGaN back barrier is investigated using Silvaco ATLAS TCAD tool. The proposed MOSHEMT featuring Al_2O_3 oxide layer, heavily doped n+ GaN Source/ drain region exhibits the sheet carrier density (n_s) of 1.66×10^{13} Cm^{-2}, drain current density of 1.8 A/mm. drain current density, transconductance (g_m) of 530 mS/mm, low leakage current 10^{-9} A/mm and current gain cut-off frequency (f_t) of $300\ GHz$. The excellent electrical characteristics of proposed MOSHEMTs are attractive candidates for future high power sub millimetre wave applications.

Keywords:

HEMT, 2DEG, Leakage current, back-barrier and short channel effects.

Hyper Spectral Image Denoising via Sparse Representations over Learned Dictionaries

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Dr.S.Saheb Basha, Professor, Electronics and Communication Engineering, G.Pulla Reddy Engineering College (Autonomous), Kurnool, A.P, India

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Abstract:--

Hyperspectral images are corrupted by noise during their acquisition and Hyperspectral image (HSI) denoising is a crucial preprocessing procedure to improve the performance of the subsequent HSI interpretation and applications. In an HSI, there is a large amount of local and global redundancy in its spatial domain that can be used to preserve the details and texture. In addition, the correlation of the spectral domain is another valuable property that can be utilized to obtain good results. In this work, we propose to efficiently denoise hyperspectral images under the assumption that the image patches are sparse in a proper representation domain defined through a dictionary. We propose to rather learn the dictionary from Hyperspectral images, a task commonly known as dictionary learning. A number of HSI data sets are used in our evaluation experiments and we show that the dictionary learning approach is more efficient to denoise hyperspectral images than state-of the- art HSI denoising methods with fixed dictionaries, at the cost of a larger computation time.

Keywords—

Hyperspectral image, denoising, sparsity, dictionary learning, K-SVD.

Performance Analysis and Comparisons of AODV-RPL Routing Protocol in Low Power and Lossy Networks (LLN)

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Dr. G. Kishor Kumar, Department of Computer Science Engineering, RGMCET, Nanadyal, A.P, India

Dr. A. P. SivaKumar, Department of Computer Science Engineering, JNTUA, Ananthapuramu, A.P, India

Abstract:--

Recently, Low Power and Lossy Network (LLN) has turned into indivisible part for the wireless communication. These networksare versatile without the utilization of a current infrastructure of network or centralized monitor. However, routing in LLN are having restrictions on energy, memory, power and processing. The connection between the devices in such network are characterized by unstability, low data rates and high packet loss. In this paper, we proposed a AODV based RPL routing protocol that makes use of RPL protocol and AODV routing protocol that exhibits the functionality, characteristics and different parameters of both routing protocol, i.e. AODV and RPL routing protocol. In LLN networks, route discovery is a desirable feature and need to handle point to point asymmetric and symmetric traffic flows. This proposed work uses point to point reactive route discovery operation between asymmetric links of the origin node and the target node.

Keywords—

LLN, AODV, RPL routing Protocol.

Machine Learning Prediction Models Through the Performance Evaluation of Diabetic Classification: A Survey

G Vijaya Kumar, G Pulla Reddy Engineering College
Patil Manogna K, G Pulla Reddy Engineering College

Abstract:--

In the field of health research, the health system utilizing advanced computer technology is the most essential research requirement. Researchers in the field of informatics and healthcare are constantly working together to develop more advanced technologies for such systems. Recent World Health Organization studies show an increase in the number of diabetic patients and their mortality. Diabetes is one of the major diseases and has far-reaching complications. To make the medical information a great deal, it is important to collect, store, study and evaluate the health of these patients through continuous monitoring and technological innovation. The alarming rise in the number of diagnostic patients has becomes a major concern. Through innovation, it is important to set up a system for storing and monitoring diabetes information, and more serious dangers can be discovered. Early detection and analysis remain a challenge for researchers. This survey paper provides an ongoing study on diabetes detection and suggested structures.

Key-words:

classification, diabetes, machine learning, performance, predictive analytics.

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Performance Improvement of Cardiovascular Disease Prediction with Machine Learning and Classifiers: A Survey

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Nadagouni Vasavi, PG Student, G Pulla Reddy Engineering College, Kurnool
R Praveen Sam, Professor, G Pulla Reddy Engineering College, Kurnool
Y Rama Mohan, Associate Professor, G Pulla Reddy Engineering College, Kurnool

Abstract:--
     Nowadays, the term "heart disease" is often used interchangeably with the term "cardiovascular disease." covering any disorder of the heart. Since from the past few years majority of research studies shows that more number of deaths occurs due to heart diseases, which increased drastically in India. People in India now are getting heart attacks at a much, much younger age. Predicting and monitoring cardiovascular disease is often expensive and tenuous; thus, involving most popular technologies of AI is called machine learning which empowers the algorithms to study and understand the data and its properties. Therefore, machine learning can be used to predict and possibly determine future data. The aim of this paper is to summarize some of the current research on predicting heart diseases using machine learning techniques.

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Exposure of 3D- Stereoscopic Videos Defects using Binocular Disparity

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Abstract:--
   3D video quality issues may hassle the human visual system and will adversely affect the 3D seeing knowledge, which are notable fundamentally via 3D silver screen and turn out to be more applicable as the accessibility of 3D video content percentage increase, compared to 3D TV. In this paper, we introduce four algorithms that exploit accessible stereo uniqueness data, keeping in mind the end goal to distinguish annoying stereoscopic impacts, specifically Stereoscopic Window Violations (SWV), Bowed Window Impacts, UFO items and profundity bounce cuts on stereo videos. In the wake of distinguishing such effects, the introduced algorithms describe them, in light of the pressure they cause to the watcher's visual framework. Subjective agent illustrations, quantitative test comes about on a uniquely crafted video dataset, a parameter variation study and remarks on the calculated multifaceted nature of the algorithms are given, with a specific end goal to survey the precision and execution of stereoscopic quality deformity discovery.

Index Terms:
   Visual Discomfort, 3D-Quality, Stereoscopic Video, Binocular Disparity.

Reliability Evaluation of Distribution System with Distributed Generation Using Etap

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Abstract:--

Reliability is one of the vital area in electric power system which defines continuous supply of power and customer satisfaction. The distribution system have more than 80% of all customer interruptions occur (i.e power quality issues) due to component failures. That report indicates that, the expected reliability indices such as interruption frequency and interruption duration during the entire year. Many researches are finding to assess the reliability of the power system. Further, due to the wide growth of distributed generation in electrical power, investigating their impact on system reliability, it becomes an attractive area of research. In this paper, the reliability evaluations of distribution system using a minimal cut set method based on the FMEA technique is described and apply to the IEEE RBTS Bus-2. Development of reliability modeling using ETAP software is presented for determining the reliability indices. In addition to, improvement of reliability with introducing of distributed generation model is presented on the distribution system. Different reliability tests were done to find the optimum location to plant DG in distribution system. Reliability indices are load point indices and system indices which includes, System Average Interruption Frequency Indices (SAIFI), System Average Interruption Duration Indices (SAIDI), Customer Average Interruption Frequency Indices (CAIFI), Customer Average Interruption Duration Indices (CAIDI) etc. These indices are shows that, performances of reliability of the distribution system.

Keywords:

Distribution system; Distributed Generation; Reliability Assessment; Reliability Indices

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An Innovative Approach of VLSI Physical Design for the Desired response

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Abstract:--

The physical design placement problem is one of the hardest and most important problems in micro chips production. The placement defines how to place the electrical components on the chip. We consider the problem as a combinatorial optimization problem, whose instance is defined by a set of 2-dimensional rectangles, with various sizes and wire connectivity requirements. We focus on minimizing the placement area and the total wire-length.

We propose a local-search method for coping with the problem, based on natural dynamics common in game theory. Specifically, we suggest to perform variants of Best-Response Dynamics (BRD). In our method, we assume that every component is controlled by a selfish agent, who aim at minimizing his individual cost, which depends on his own location and the wire-length of his connections.

We suggest several BRD methods, based on selfish migrations of a single or a cooperative of components. We performed a comprehensive experimental study on various test-benches, and compared our results with commonly known algorithms, in particular, with simulated annealing. The results show that selfish local-search, especially when applied with cooperatives of components, may be beneficial for the placement problem.

Survey on VLSI Architecture for Lifting Based Discrete Wavelet Transform in Image Processing Applications

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Abstract:--

Nowadays all over the world follow the high resolution images and videos in domestic and commercial applications. In this high resolution applications memory usage is very high especially 3D images for transmitting and receiving and also bandwidth requirements are very high. These type of processing required more processing time and also required more power. The Discrete Wavelet Transform(DWT) is one of the technique to solve the problems in image processing.. This paper is a survey on VLSI Architecture for image compression through Lifting Based Discrete wavelet transform. The more number of techniques are proposed on DWT in early years among them lifting scheme is more efficient compared to conventional DWT in power and area considerations These lifting architectures give a perfect solution with efficient hardware utilization and less memory usage.

Keywords:

Discrete wavelet transform, lifting scheme ,VLSI Architecture.

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Parallel Interference Cancellation Scheme in MC-CDMA Over Frequency Selective Fading Channel

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Dr K. E. Srinivasa Murthy, Professor & HOD, GPCET, Kurnool

Dr M. N. Giri Prasad, Professor, Dept of ECE, JNTUA   Ananthapuramu.

Abstract:--

From the past few years, the variant technologies of multi carrier code division multiple access (MC- CDMA) has gained importance in providing the broadband services through wireless communication. MC-CDMA could be a reliable technology wherever multiple users can communicate expeditiously in wireless medium. the key issue ought to be self-addressed within the MC-CDMA is multiple access interference (MAI) from totally different users. to beat this, the effective parallel interference cancellation mechanism is projected in this paper. in the initial stage, PIC is introduced to estimates the users interference. in the second stage, MMSE equalisation is employed to urge the users desired information. The projected methodology with success restricts the MAI and improved the performance of the MC-CDMA.

Investigations on Sentiment Analysis and Opinion Mining in Social Media Data

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Abstract:--

In the recent years, the advancement in the social media and big data leads to the development of sentiment analysis and opinion mining. The sentiment analysis is the process of data classification based on the Lexicons to define the polarities of the words. Many organizations depend on the data analytics for their business decision making. This paper presents the extensive survey on the approaches used for sentiment analysis and opinion mining. This survey concentrated on research issues and challenges faced by the sentiment analysis and opinion mining algorithms.

Keywords:--

Opinion mining, Lexicon approaches, Domain based algorithms, Machine learning algorithms

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A Survey on Prediction of Fatty Liver Disease by Using Machine Learning Techniques

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Abstract:--

Fatty liver disease (FLD) is a common clinical compl1ication, associated with high mortality. An early prediction of patients with FLD will provide an opportunity to make an appropriate strategy for prevention, early diagnosis, and treatment. We aimed to develop a machine learning model to predict FLD that might assist physicians in classifying speculative patients, and make a new diagnosis, prevent and manage FLD. This model represents the comparison of the four classification algorithms on different benchmark dataset to evaluate classification performance and predict fatty liver disease accurately. Likewise, it also presents the performance of the Fatty liver disease (FLD) prediction depends on following scaling factors such as Accuracy, Precision, Sensitivity(Recall), and Specificity. Implementation of this model in the clinical setting could help physicians to stratify fatty liver patients for primary prevention, early treatment, and management.

Keywords

Fatty Liver Disease, Machine learning, Learning algorithms.

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Image Enhancement using Histogram Equalization

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Abstract:--

Nowadays, a lot of applications use digital images. For example in face recognition to detect and tag persons in photograph, for security control, and a lot of applications that can be found in smart cities, as speed control in roads or highways, cameras in traffic lights to detect drivers ignoring red light. Also in medicine digital images are used, such as x-ray, scanners, etc.). These applications depend on the quality of the image obtained. A good camera is expensive, and the image obtained depends also in external factor as light. To make these applications work properly, image enhancement is as important as, for example, a good face detection algorithm. Image enhancement also can be used in normal photograph, for pictures done in bad light conditions, or just to improve the contrast of an image. There are some applications for Smartphone's that allow users apply filters or change the bright, colour or contrast on the pictures This project techniques to use in image enhancement. After applying one of the techniques histogram equalization to an image, it will use better the whole available dynamic range. Some of the algorithms are designed for grayscale images and others for colour images. It is used Matlab software to develop and present the final results. These algorithms are Histogram Equalization, using Matlab functions

Keywords

image enhancement, histogram equalization   Matlab.

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Pathological Brain Tumor Detection Using CLAHE and LS-SVM

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Abstract:--

The segmentation, early detection and removal of infected tumor region from Magnetic resonance images is a main problem but tedious and time-consuming task conducted by radiologists and their precision depends only on their knowledge. To solve these constraints, it becomes very important to use computer-aided technology. In this study, the medical image involves improving performance and reducing complexity. This paper proposes an efficient PBDS based on MR images that significantly enhances recent results. To improve the quality of input of MR images, the proposed system uses CLAHE. Subsequently segmented using OTSU and K means segmentation methods. On the segmented image, morphological operations are performed to obtain the information about the tumor area, size and density. Using a discrete wavelet transform (DWT) strategy, the segmented image is then transformed to extract features. Subsequently, the PCA approach reduce the dimensionality of the features. The reduced features were submitted to a Least square support vector machine (LS-SVM). The strategy of 5×k-fold stratified cross validation (SCV) test has been carried out to enhance LS-SVM generalization. We performed our proposed methods with four different kernels and found that the GRB kernel has the highest classification accuracy of 99.38%. The LIN, HPOL, and IPOL kernel achieves 95%, 96.88%, and 98.12%, respectively. We also compared our method to those from literatures in the last decade, and the results showed our CLAHE+DWT+PCA+LS-SVM with GRB kernel still achieved the best accurate classification results It could be applied to the field of MR brain image classification and can assist the doctors to diagnose where a patient is normal or abnormal to certain degrees at the early stage.

Index Terms

K-means, Brain tumor, classification, segmentation, image de-noising, principal component analysis (PCA), two-dimensional discrete wavelet transform (2D- DWT), Least square support vector machine (LS-SVM).

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Recent Advances in Signature Verification and Facial Recognition Algorithms

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Kshitij Shinghal, Associate Professor, Department of E&C Engineering, MIT, Moradabad

Abstract:--

Biometric techniques are very reliable. Biometric verification is generating high interest recently. Biometric verification methods are used to verify the authenticity of the individuals. It is getting a reliable method of verification. Face recognition and signature verification are very common biometrics techniques. Many researchers are working on face recognition technology and signature verification. In this paper recent advancements in facial recognition and signature verification technology are presented. The detailed analysis indicates that low light identification is still a tedious task and there is intraperson variations in the signatures.

Index Terms

Biometrics, FAR, FRR

Air Quality monitoring system: predict concentrations of pollutants

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Kotapuri Narasimhulu, Project Student in Department of Computer Science and Engineering, IIIT- R.K.Valley, Rajiv Gandhi University of Knowledge Technologies, Kadapa, Andhra Pradesh, India.

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Abstract:--

In this work, the system provides clear visualizations of air pollutants details (NO_2, PM_{25}, $P M_{10}$, SO_2, CO and O_3) in our environment and list outs the diseases that may affect living beings by considering the concentration levels of each pollutant. In addition to that our system also recommends some overcome measures to reduce levels of poisonous air pollutants which are gradually increasing. So that Government can monitor pollutants concentrations over a period of time and take control measures to make the world pollution-free. It also prognosticates hourly concentrations of air-pollutants by training the model with historical data and calculate AQI values by using respective concentration levels. We prognosticate air-pollutant concentrations by using some machine learning concepts, which yields an efficient model to predict the values by training the model with a large amount of historical data. There are many models proposed by many others to predict air-quality by applying simple standard Regression models using both linear and non-linear. Here we consider it to be multi-task learning and applied various regularization routines to list out the efficient model which can forecast concentration levels of pollutants.

Index Terms—

Air pollutants, AQI, prediction, Regression model, Multi task learning and Regularization

Implementation of Latency Reduction using Enhanced Tree Based Multiplier Algorithms

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Dr.Pramod Sharma, Principal, Regional Engineering College, Jaipur,Rajasthan

Abstract:--
     Multipliers assume a critical job in the present advanced flag preparing and different applications. With advances in innovation, numerous analysts have attempted and are endeavoring to plan multipliers which offer both of the accompanying outline targets – rapid, low power utilization. Power dispersal of coordinated circuits is a noteworthy worry for VLSI circuit architects. A Wallace tree multiplier is an enhanced rendition of tree based multiplier design. A Wallace tree is a proficient equipment execution of an advanced circuit that duplicates two whole numbers This paper goes for further decrease of the inertness and power utilization of the Wallace tree multiplier. This is refined by the utilization of compressors. The outcome demonstrates that the proposed Wallace tree multiplier is 44.4%faster than the regular Wallace tree multiplier, alongside acknowledgment of 11% of lessened power utilization. The simulations have been completed utilizing the Modelism and Xilinx tools.

Keywords-
     Wallace, Latency, Power, Multipliers, carry select adder.

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A Cognitive Approach to Improve the Quality of Service in NB-IoT

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Joseph Rajiv Kantheti, Assistant Professor of ECE, Nalla Malla Reddy Engineering College, Hyderabad

Abstract:--

   Narrow Band Internet of Things (NB-IoT), a 3GPP Release-13 proposed technology is well known for its low power consumption and wide area coverage. These are the most urging requirements of current scenarios of industrial, research and also social. To enhance the coverage of NB-IoT, redundant data is transmitted. This redundant data transmission improves the area coverage in NB-IoT when compared with Long Term Evolution (LTE). But a large number of repetitions of the data leads to a reduction in the throughput and a raise in the delay. The battery lifetime of the IoT devices gets reduced and the cost of maintenance increases. In this paper, an efficient routing (Q-AODV routing algorithm) using Reinforcement algorithm is suggested to avoid repetition of data for an extent. A Q-learning algorithm is used for decision making in an Ad hoc On demand Distant Vector (AODV) routing algorithm. This improves the throughput and decreases the delay. Simulation of a network with Q-AODV routing algorithm is performed and compared with the traditional AODV routing algorithm.

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Extraction and Classification of tumor in CT Liver Image

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Abstract:--

In this paper, we have extracted liver and tumor region in the CT image. Liver and tumor are extracted by using region growing method, and morphological operations such as filling holes, erosion, dilation and close. Features of tumor such as area and perimeter are calculated using regionprop operation. Using these feature, tumor is classified as benign or malign.

Keywords:-

Liver cancer, CT image, Region growing, morphological operation, area and perimeter, etc..

Attitude of consumer towards Green Marketing product to protect Environment for sustainable Development: A study with reference to Rayalaseema Region AndhraPradesh

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Abstract:--

Environmental issue is becoming a serious burning problem nowadays. 'Success' might have a single cause, but the failure has many. And our miserable failure in protecting our environment has many attributes. Among these attributes, the rapid growth in the economy and the pattern of consumer consumption and behavior is continuing to worsen. The developed and the developing countries are to be alarmed particularly because of their heavy usage of eco –foe products. The major issue confronting the corporate world today is maintaining ecological balance. The natural resources which are irreplaceable by any other are getting depleted at a rapid pace. Hence "Green marketing" is gaining its currency. Green marketing is "Back to nature "which includes recyclable, refillable, eco-friendly nature-based products. Confrontation of any problem depends on the attitude of the consumer. Hence this paper highlights' the consumer attitude will be successful at (i) belief level (ii) action level. The small changes at least 30% of our daily needs will bring a great integral part of social change.

Keywords-

Green Marketing, consumer attitude, belief level and action level

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Analysis, Simulation and Design of Phase Modulated Series Resonant Converter for High Voltage Applications

Rakshitha.R, RVITM
Supraj kashyap, RVITM
G S Manikanta, RVITM

Abstract:--

      Series Resonant Converters find application in high voltage power supplies where the large transformer parasitics have to be accounted for. This Paper deals with the Analysis, Simulation and Design of Phase Modulated Series Resonant Converter. Study state analysis for above resonant frequency operation is presented. Two modification, one for extending the Zero voltage switching range and the other providing inherent short circuit production are also introduced. Experimental results on a laboratory model are shown to verify the design procedure.

A Security Applicable With Deep Learning Algorithm for Big Data Analysis

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Dr.Mohd Abdul Hameed, Assistant Professor, Department of Computer Science & Engineering ,University College of Engineering(A), Osmania University Hyderabad, Telangana ,India

Abstract:--
      Big data is a field that discusses ways to investigate, regularly extract information, or differently deal with data sets that are excessively large or difficult to be dispensed with traditional data-processing utilization software. The analysis of big data is the critical challenge to be discussed among all research results because it presents more critical business value in any analytics ecosystem. Classification is a mechanism that designs data are allowing economic and efficient completion of precious analysis. So, there is a need for choosing suitable features for preparing the classifier. That is feasible by combining a Feature Selection process with a classification pattern. So, this analysis work initiates a hybrid method defined HCFS-Hierarchical learning for recognizing relevant Feature Subsets compared to the target class and yielded to the classifier representation to improve the performance. The Privacy need is revealed by the integrity characteristic of the big data. The development of science has encouraged every individual to the protection and utilize big data for analyses of the industry, consumer, medical, bank account, etc. obtained privacy break or interruption in most cases. Also, the data appropriated for big data analytics include limited, or copyright retained data, and there endures data secrecy break or interference. So, there is an essential need to protect privacy with specific principles for safeguarding the fine-tuned private data of every individual from interruption for analytics.

In this survey, we examine how Deep Learningcan be applied to discuss some critical problems in large data analyzes, including the extraction of complex models of large amounts of data, moral indexing, data tagging, rapid data recovery. The extension of the investigation study shows the necessity for feature extraction before classification. Feature selection determines a feature subset from existent feature set associated with the target class, while feature extraction obtains new features from a previous feature set. It improves the performance of classification by preparing the classifier with suitable features. Furthermore, Feature Extraction is similarly employed for the enrichment of the organization performance by implementing new features compared to the target class for practice capable of the classifier. Most of the research work based on previous Deep Learning algorithms like Autoencoders (AEs), Convolutional Neural Networks (CNNs), and Recurrent Neural Networks (RNN) are the main approaches implemented. However, there are still have a problem in their complexity, Privacy, and also time-consuming in the current approach to solve and end this issue, this work inducts a schema described Enhanced Local N-ary Ternary Patterns (ELNTP) with MDBN (Modified Deep Belief Network) for multiple big data image set classification and provide security for big data analytics. The ELNTP acts by changing the previous LNTP by modification in the assortment of pixel states for identification and MDBN operates through adjustment of parameters in the DBN approach on activation function selection

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and weight updating process. The ELNTP and MDBN provide excellent performance in big data heterogeneous image set classification than the previous methods. This investigation work examines the result of privacy in the feature selection method because privacy is compulsory when a user distributes a sample feature for the determination of appropriate characteristics from the databank and vice versa. Further, the addition of secrecy-provided mechanism should not pretend the classification performance. Qualitative evaluation of all the proposed classification methods and Security-preserving mechanism has been created with classification accuracy and operating time, sequentially. Statistical analysis of accuracy assessments and computational time represents that the proposed schemes provide compromising results over previous methods.

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Ocean Wave Energy- A Step Towards Recharging Batteries

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Abstract:--

In the earth's ecology the bulk energy resources are renewable energy. Some of them are solar, wind and ocean energies. Ocean energy contains merely of oceanic thermal energy, tidal and wave energies. Wave energy is mainly focused due to immense energy densities, colossal potentials and anticipations. Existing technologies cannot exploit wave energy efficiently on commercial scale. Our paper explains the experimental work over exploitation of wave energy throughout the world's coastline. The global estimation of practical prospective is approximately 500GW based on a conversion efficiency of at least 35-40%. Wave power means the energy capture of waves on ocean surface. The device that is able to convert any wave energy into power through its capability, then it is called a Ocean Wave Energy Converter (OWEC). The principal of operation of this device is to convert vertical heave dispersion into a rotational action which generates electricity. This electrical power can be stored in batteries and also to recharge them. As the wave energy is pollution free, reliable, and incessant which reduces our dependence on fossil fuels.

Keywords:

Ocean Wave Energy, Power Storage, Rechargeable batteries, Renewable energy, Wave Energy Converter.

Design of Low Power and High Performance Full Subtractor Circuits by using Novel 5T Based XOR and XNOR Combo Gate

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Abstract:--

Full Subtractors are vital components in many electronics applications, like video coding for wireless surveillance, sensing motion activity in the current image, ADCs, DACs etc. Dedicated FulL Adder /Full Subtractor circuits are indispensable in Digital Signal Processing applications. Hence it is quite crucial to design them with least power requirements and low worst case delay.

In this paper, novel circuits for 1-bit Full Subtractor (FS) circuits are designed using a unique XOR/XNOR combo gate. This Odd-Even combo gate (OEG) generates regular and complement outputs simultaneously by utilizing just 5 transistors. The 4 hybrid architectures for 1-bit FS circuits (namely FS14T, FS17T ,FS19T and FS22T) were designed These proposed FS circuits simulation results were compared with conventional CMOS FS design which needs 38 transistors (FS38T).

Simulation results for proposed subtractors, were obtained. The simulation platform used was Cadence Virtuoso. The circuit simulations are carried out on gpdk180nm technology node. The design metrics compared are power, delay and finally Power Delay Product (PDP). On all the fronts hybrid FS circuits show improvements in several magnitude. FS14T shows better improvement in terms of power consumption, FS14T reduces power by 49.42% when compared with FS38T and delay is reduced by 45.28%. FS17T is highly optimized to get lesser PDP when compared with FS14T and FS19T, FS17T reduces delay by 56.24%. Among all the proposed Full subtractor circuits FS22T and FS19T have better delay metric, they reduce the delay by 62.7% and 63.01% and FS22T has lowest PDP.

Outbreak Predictions in Healthcare Domain using Machine learning & Artificial Intelligence

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Abstract:--

AI-based technologies and machine learning are being put to use in monitoring and predicting epidemics around the world. Today, scientists have access to a large amount of data collected from satellites, real-time social media updates, website information, etc. Artificial neural networks help to collate this information and predict every disease from various techniques & outbreaks to severe chronic infectious diseases. Predicting these outbreaks is especially helpful in third-world countries as they lack in crucial medical infrastructure and educational systems. A primary example of this is the ProMED-mail, an internet-based reporting platform which monitors evolving diseases and emerging ones and provides outbreak reports in real-time.

Keywords:

Outbreaks, healthcare, predictions, Datasets, Behavioural Modifications, KNN Algorithm, Decision Tree, Naïve Bayes.

A Brief Review over Dental Image Segmentation and Classification Techniques

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Dr. P. Ramana Reddy, Professor, dept of ECE, JNTU ANANTHAPUR

Abstract:--

Dental image analysis has attained more research interest in recent years due to their flexibility in various applications like human identification, dental disease diagnosis etc. This paper outlines a brief overview about different dental image segmentation techniques. This paper also formulated some details about different types of dental caries. Totally the outlined segmentation approaches are classified as dental image targeted segmentation approaches and the segmentation approaches based on active contour models and thresholding based methods. The shape defining for tooth image is more challenging; most of the approaches are oriented to the shape and intensity levels of dental images. A simple comparison between different approaches is also outlined in this paper.

Keywords-

Dental image segmentation, Dental Caries, Contours, Shape, 3D surfaces.

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The Implementation of Bessel Function and Its Importance to the Electromagnetic Waveguides

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Abstract:--
In this paper, Bessel functions are revisited extensively for its definitions, characteristics properties and kinds. The Bessel functions are started from single dimensional, two dimensional and multi dimensional variables in its applications. Also the various applications of Bessel functions are studied. The Bessel function curves for various order and arguments are extended. The diagrams were simulated and presented. These generalized Bessel function application find useful in microwave engineering of circular waveguides.

Keywords:--
Bessel, differential equation, wave propagation, circular waveguide.

SPECT and MR Image Fusion scheme based on Hybrid activity measures with consistency verification in Non-Subsampled Contourlet Transform domain

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Abstract:--
Integration of SPECT and MR images provide composite information in a single fused image where both functional and anatomical features can be viewed simultaneously. Medical practitioners need these multimodal images to achieve fast and accurate diagnosis of human health issues. In this paper, a Hybrid activity measure is proposed to integrate multi-sensor images in Non-subsampled contourlet transform (NSCT) domain. The NSCT is used to decompose source images into low frequency (approximation) and high frequency(details) subbands. The proposed method includes different hybridfusion rules for these complementary low and high frequency subbands. For the selection of low frequency subband information, a hybrid fusion scheme based on local energy and local entropy is used. The high frequency subbands are merged by using a weighted sum of Laplacian coefficients and weighted local energy.Finally, spatial domain fused imageis obtained via Inverse NSCT. In this work, a comparison is accomplished with recent fusion methods by choosing multimodal brain images. The experimental results reveals the effectiveness of the proposed hybrid activity measure with consistency verification fusion in terms of the image quality and quantitative assessment.

Keywords
Nonsubsampled contourlet transform, Single Positron Emission Computed Tomographyimage, Magnetic resonance Imaging, Local energy, Entropy, Laplacian.

Implementation of High Performance Multiple Asset Tracking using UHF RFID in Supply Chain Management

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Dr. B. Ramamurthy, Professor of Electronics, Sri Krishna Devaraya University, Anantapuramu

Abstract:--

In numerous logistics and assembling applications, following of moving articles with radio frequency distinguishing proof (RFID) labels on a transport line is a reason for some other
forms, e.g., arranging methods, stepping IDs in an observation video. Be that as it may, in complex mechanical situations, a sharp decrease in Tag Read Record (TRR) frequently brings about serious spatial vagueness. In this kind of situations, existing frameworks can't work viably attributable to the common presence of commotion. This paper proposes a Passive RFID Real-time Tracking System (PRTS) with resistance of a little TRR, which is intended for following RFID-labeled portable objects.We utilize definite derivation to change over the following issue into a scanty sign reproduction one. To take care of this issue, we devise a novel ordinary scanty sign recreation strategy dependent on avaricious interest by making the best of the accessible earlier information and further enhance it by means of alignment of the stage deviation from frequency and angleof- appearance reactions. Besides, we influence the streamlined molecule channels to encourage the continuous following of versatile items on transport lines. We actualize the model PRTS with business off-the-rack RFID gadgets and assess it in different situations.

Keywords:

RFID, Logistics, UHF, Tag, Asset Management

A Modelling of Switched Reluctance Motor Using Finite Element Analysis

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Dr.P.Sobha Rani, Dept of EEE,Lakireddy Bali Reddy Engineering College,Mylavaram,India

Abstract:--
   Almost 70% of the machines used in industries are Induction Motors (IM). Because it has many advantages compared to other machines, therefore it leads to replaced conventional DC machines by Induction machines. Though it has several advantages which are required for industrial application, there are some disadvantages of IM which includes poor starting torque and high in rush currents. They operate under worst lagging power factor which increases I2 R losses in the system, reduction in the efficiency of the system. Now a day's Switched reluctance motor is finding massive application in various fields due to its high performance when combined together with the power electronics. Magnet free and winding free nature of the rotor attracts fame for Switched Reluctance Motor, the same reasons results in the reduction of cost and ease of construction. There are numerous software's available for the modelling of electrical machines such MATLAB, Comsol, Motor solve, Ansys Maxwell etc. ANSYS RMxprt   is efficient and low cost tool suitable for design of various electrical machines. This paper presents the modelling , analysis of 8/6 switched reluctance motor using ANSYS RMxprtr and the Electromagnetic calculation along with 2-D and 3-D geometry.

Keywords :
   Switched Reluctance Motor (SRM) , ANSYS Maxwell; ANSYS RMxprt, 2-D and 3-D geometry

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Power Optimized BCD adder Using Low Power Techniques

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K.Babulu, JNTUK, Kakinada

Abstract:--
      Today growing market demands the Microelectronic Circuits with less power consumption because of mobile and portable electronic systems are working with the Batteries. In this scenario, density of the chip increases with the increase of transistors on the chip. Increase of density causes difficult of reducing the power dissipation and hence limit the functioning of the system. In this work proposed BCD adder circuit by Gating-Vdd technique to reduce the power consumption and analyze the proposed adder circuit with Sleep Transistor and Conventional techniques. Today most of the VLSI systems are having CMOS devices, that's the reason concentrated on the development of BCD adder using CMOS devices.

Keywords :
      BCD adder, sleep transistor, gated-Vdd transistor.

An Overview of Digital Image Processing for the Analysis of Diabetic Nephropathy Images

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Dr.C.Subhas, Professor , JNTUA CEK

Abstract:--
      The principal root of chronic renal disease and a foremost origin of cardiovascular impermanence is diabetic nephropathy. Diabetes leads to micro-vascular and macro-vascular complications, and diabetic kidney disease is one of the utmost severe with significant mortality and quality of life impacts. An outline of approaches is presented in this paper to suggest a framework to examine the underlying problems present in Diabetic Nephropathy pictures acquired. The techniques of image processing should be useful for framework creation and useful for quick analysis as well as a common man's educational tool.

Index Terms—
      Diabetes mellitus, Diabetic Nephropathy, Human, Image Processing, Kidney

Design and Implementation of a LoRa based Environmental Parameters

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R.Jeevan Kumar, Department of Physics, Sri Krishnadevaraya University, Ananthapur

M.V.Lakhmaiah, Associate Department of Physics, Sri Krishnadevaraya University, Ananthapur

Abstract:--
Internet of Things (IoT) is Low-cost and low-power are the key factors to make any IoT network useful and acceptable to the farmers. In this paper, we have proposed a low-power, low-cost IoT network for monitoring the Temperature, humidity. LoRa (Long Range) is a low-power wide-area network (LPWAN) technology. It is based on spread spectrum modulation techniques derived from chirp spread spectrum (CSS) technology. High-performance computing installations, which are at the basis of web and cloud servers as well as supercomputers, are constrained by two main conflicting requirements: IT power consumption generated by the computing nodes and the heat that must be removed to avoid thermal hazards. We propose a low-cost and battery-supplied wireless sensor network (WSN) for fine-grained, flexible and long-term data center temperature monitoring. The WSN has been operational collecting more than six million data points, with no losses, for six months without battery recharges. In this paper we are implemented LoRa based environmental parameters monitoring like temperature and humidity. This parameters information processed by Raspberry pi4 and transfer information through LoRa transmitter to LoRa nodemcu receiver and monitor information continuously in Ubidots clouds. Transmitter of LoRaWAN sensor that measures temperature and humidity, with an incredible maintenance free lifetime of 20 years at a 4 to 5-minute measurement interval. Easy to use, configurable over the air and stylish in design to fit into indoor spaces. New LoRa chipsets were announced, with reduced power consumption, increased transmission power, and reduced size compared to older generation. LoRa and LoRaWAN permit long-range connectivity for Internet of Things (IoT) devices in different types of industries.

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The Effect of Hall Currents on the Double Diffusion Heat Transfer Flow of a Chemically Reacting Fluid past a Stretching Sheet in the Presence of Constant Heat Sources

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Dr.M. Siva Sankara Reddy, Assistant Professor of Mathematics, G. Pulla Reddy Engineering College(Autonomous), Kurnool, Andhra Pradesh, India

Abstract:--

In this paper, we investigate the effect of hall currents on the double diffusion heat transfer flow of a chemically reaction fluid past a stretching sheet in the presence of constant heat sources. The equations governing the flow heat and mass transfer are solved by employing a Galerkine finite element analysis with three nodded line segments. The velocity, temperature and concentration are solved for different variations of governing parameters G, M, m, N, Sc, □ and□. The rate of heat and mass transfer are numerically evaluated for different variations of parameters.

Keywords:

Hall current, heat and mass transfer, heat transfer flow

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An extended PPFCM- ANN model for telecommunication customer retention

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Abstract:--

The term 'Churn' indicates a situation when an existing customer shows no longer interest to continue his or her participation in utilizing the services of a company. Hence Churn Prediction plays a crucial dynamic role that paves the way for the sustainable growth of the organization importantly in the ever-challenging telecommunication industry. This article intends to propose a framework to forecast a customer by hybrid probabilistic possibilistic fuzzy C-means clustering (PPFCM) along with Ensemble classification (PPFCM-Ensemble) techniques. This paper involves two modules: (1) PPFCM clustering techniques used for clustering module (2) Ensemble classifiers used for customer forecasting component module. During the training process, the train dataset is assembled into groups, with the assistance of PPFCM clustering techniques. The acquired segmented data is utilized in the following ensemble classifier and this mixture model is utilized for forecasting churn prediction process. During the testing procedure, the segmented test information selects the most precise ensemble classifier which relates to the nearest group of the test information, as indicated by least distance. At last, to forecast the churn customer using the proposed hybrid PPFCM-Ensemble model. Three different experiments are performed, it is proved that the proposed Hybrid PPFCM-Ensemble Model affords maximum accuracy in comparison with any solitary models.

Keywords:

Customer churn, Telecommunication, Clustering, Classification, PPFCM clustering, Ensemble classification, Hybrid model, Bagging, Boosting, Random subspace.

Dedicated Sensing Unit for Smart Light Switching in Energy Efficient Eco-Friendly Building

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Anil Kumar, Vice Chancellor in Al-Falah University, Faridabad , Haryana, India
M. A. Khan, Head Electrical Engineering Section, University Polytechnic, Jamia Millia Islamia, New Delhi, India

Abstract:--
      The concept of Green Building and energy efficient building is the demand of the time now due to the increase in the number of occupants, change in climate, increase in population, gaseous emission and continuously exhausting natural resources .The buildings are the main consumers of electricity and the fields of energy consumption in a building are HVAC, lighting systems, water system, kitchen appliances etc. In this paper focus has been given on lighting consumption in a institute building. Lighting consumption in the institute building is calculated on LPD basis with use of fluorescent tube light and then using same LPD method again the energy consumption of the same building is calculated and a saving of 62% is observed. Using rooftop grid connected solar power plant provided in the institute due to lesser rate of solar power a further cash saving of 30% is observed. In the further step a classroom is considered and occupancy sensors, PIR, LDR and other sensors fitted in dedicated units made and is controlled by central micro controller so as the system can sense and send the signals regarding occupancy, people count and luminance which may be used in Building Management System(BMS) for further controlled power saving and occupant comfort.

Keywords:
      Green building, Light power density, occupancy sensors, luminance sensors, energy efficient building

In Higher Educational Institutions Making Strategic Decision by Using Machine Learning

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Abstract:--

At the Strategic level decisions effect policies, strategies, and actions. Due to the stakeholder disengagement leads to 1)decision takes long time 2)data necessary is not involved. Machine learning is an important field of artificial intelligence using algorithms. This project uses three algorithms to predict graduation rates about under graduate engineering students. By using ROC curve we executed, compare and evaluate decision tree, logistic regression and random forest.

Index Terms

Decision tress, random forest, Logistic regression, Machine learning, Strategic decisions, Higher educational institutions.

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Seam Carving and Retargeting applied to Satellite image for Resizing

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Dioline Sara , Assistant Professor , GITAM School of Technology

Abstract:--
　　　　The Remote Sensing images gives information about the Earth. The four important factors of a Remotely Sensed Images are Spatial, Spectral, Radiometric and Temporal resolution. The high Spatial resolution images give more information compared to that of the coarse resolution images. The policy of the Satellite images on the free access by the users varies for different countries. In view of the threat to the national security, the access of high resolution images are restricted and these data is available to public with areas of strategic importance masked or obliterated. The current practice is that identified areas masked with "black patches" which will be seen in the images. In order to avoid such masking, the methods of Seam Carving (SC) used for digital still images are tried out in satellite images. Object removal is the application of seam carving on digital images. Seam carving is an efficient approach of image resizing without effecting image statistics (resizing by considering geometrical constraints). To overcome the inefficiencies and emerging counter methods in masking applied to satellite images, we suggested Seam Carving method for object removal to mask regions of strategic importance. We are removing AOI to preserve image. We tried SC to be applied to satellite images data, and studied its efficacy. Concepts of SC also suggest that the algorithm works efficiently well when applied to images of low information (i.e. low gradient change). The study was made for B/W images only. However, the technique can be extended to color composite also. The AOI selected is regular shape like a rectangle or square, and AOI for irregular shape can also be tried out using this technique.

Index Terms
　　　　Seam carving(SC), Area of interest (AOI), (B/W) Black and White

Optimal Placement and Sizing of IPFC Using Hybrid Technique

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Abstract:--

Utilization of the electrical power has increased by many folds in the last decade due to urbanization and consumer behviour, it is not advisable to add a new transmission line to the existing power system network for various reasons and worthy mention are regulatory, environmental and public policies and installation costs. to overcome this modern power electronics devices such as Interline Power Flow Controller (IPFC) are introduced into the system that can control one or more AC transmission system parameters for enhancing controllability and power transfer capability. Sizing of the IPFC and locating the same in transmission line is a herculean task. To perform this, a new hybrid method using fuzzy logic (FL) and Artificial Bee Colony (ABC) algorithm is proposed. The use of fuzzy logic controller solves the problem of sizing of IPFC in terms of voltage deviation and the problem of locating the IPFC is done by ABC algorithm. The proposed method increases the voltage profile and minimizes the transmission loss of the power system. The proposed method is implemented in MATLAB and the performance of the proposed method is compared with fuzzy-PSO

Keywords:

Power system, voltage profile, IPFC, optimal location, transmission loss, Fuzzy Logic and ABC

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Characterizing and Predicting Early Reviewers for Effective

Dr. Y Rama Mohan, Associate Professor of CSE Department, G. Pulla Reddy Engineering College (Autonomous): Kurnool, Andhra Pradesh, India

Rajesh Goud T, Post-Graduation student of CSE Department currently pursuing IIIrd semester, G. Pulla Reddy Engineering College (Autonomous): Kurnool, Andhra Pradesh, India

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Abstract:--

Until making an informed procurement decision, website reviews have become a main source of consumer feedback Early product reviews seem to have a significant impact on the subsequent sales of goods. By posting reviews on two real-world e-commerce sites in this article, i.e. Yelp and Amazon. We are taking the initiative to examine early reviewer's behavioral characteristics. As an early reader, a person who posted a review early on finds it. We identify early users quantitatively based on their rating patterns, the helpfulness ratings received from others, and the correlation between their reviews and the success of the product. A person who posted a review early is known to be an early observer. The helpfulness ratings obtained from others and the correlation between their reviews and product results are quantitatively categorized by early users based on their rating patterns. We are presenting a new embedding model based on margins for early divination reviewers by treating the post-review process as a competitive multiplayer game. Extensive studies have shown that our approach outperforms a variety of extreme baselines on two separate e-commerce datasets.

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RCPWM Based Three-Level VSI fed Direct Torque Control of Induction Motor

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Abstract:--
  A simplified space vector algorithm for three level inverter fed induction motor controlled through direct torque control (DTC) is presented in this paper. The drive employs a three-level inverter instead of the conservative two-level inverter. The controller is designed to achieve a torque ripple reduction by taking advantage of the increase in the number of inverter states available with a three level inverter. The proposed algorithm has a flexibility to be valid to various rail clamping pulse width modulation (RCPWM) sequences. The superior performance of the RCPWM-3 is utilized to improve the performance of the drive during near rated speeds. From the results it is established that the harmonic distortion in the stator currents is reduced and the switching frequency of the inverter is maintained constant with the proposed control system.

Keywords:
  DTC, Induction motor drives, three-level inverter, Space vector modulation, speed /torque control

SRGM with Tef for Imperfect Debugging In Software Systems

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V.Satish Kumar, Assistant Professor in department of Computer Science & Engineering, Dr.K.V.Subba Reddy College of Engineering For Women, Kurnool, A.P., India

Md.Asim, Assistant Professor in department of Computer Science & Engineering, Dr.K.V.Subba Reddy College of Engineering For Women, Kurnool, A.P., India.

Abstract:--

The main goal of this proposed work is for analyzing FDP and FCP by incorporating two important processes namely TEF and imperfect debugging in software systems. To attain high quality reliability, it is required to test the system rigorously so that failures can be identified and correction can be done by applying tools called debuggers. As we know, testing effort function is predicted during this time by allocating the resources which influences considerably only for the fault identification rate and also for the correction of such faults.

Additionally, new faults may be included for evaluating as the feedback. In this technique, first it is proposed to demonstrate for the inclusion of TEF and fault introduction into FDP and later develop FCP as delayed FDP with a proper effort for correction. The FCP as well FCP as paired specific models which are extracted based on the basis of types of assumptions of introducing fault introduction as well as correction effort. In addition, the optimal policy of software release for different criteria with examples was also presented in this work.

Keywords:

FDP, FCP, TEF, Fault.

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Predicting Stress Levels of Secondary School Students' using Machine Learning Approaches

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Dr. C. Sreedhar, Associate Professor, G Pulla Reddy Engineering College (Autonomous), Kurnool
Dr. Farooq Sunar Mahammad, Assistant Professor, Santhiram Engineering College, Nandyal.

Abstract:--
Stress is an emotional feeling that arises from any event or thought that has adverse effects on children since they feel frustrated, angry, tensed or nervous. Stress leads to severe problems such as less energy levels, unenthusiastic, poor attention, anxiety, depression and many other mental disorders. The level of stress observed in students studying in secondary school is increasing day by day which leads to poor academic performance. In recent days, lot of schools came in to existence and they are following different strategies to make the students score high percentages in the public examinations. It is understandable that all children will not have the same capabilities and learning behaviour. Normally some students are able to overcome the stressful situations but it is not possible for few since they differ in terms of demographic factors, mental ability factors, study patterns, determination and psychological factors. So, it is necessary to predict the stress levels of the secondary school students who are above the stress threshold and proper intervention mechanisms should be adopted at proper time to make the future generation a stress-free generation.

Key words:
stress, secondary school, success, examinations, prediction, machine learning.

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Objective Evaluation Measures for speech Enhancement for Stationary and Non Stationary Noise Environments

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Abstract:--
        A new speech enhancement algorithm was proposed in this paper with an aim of reducing the non-stationary noises added on the clean speech signals. Suppression of non-stationary noise in a critical issue. Because, the characteristics of noises are different form noise to noise as well as varies with respect to the environment. To solve this issue, a novel non-stationary noise suppression mechanism is proposed in this paper based on the Sub band Adaptive Filtering. The main advantage with the accomplishment of SAF is faster convergence and also better quality achievement. Along with SAF, a noise classification mechanism also proposed in this paper to reduce the additional computational complexity in the noise identification. Extensive simulations are carried out over the proposed mechanism through different speech signals with different noise at different SNRs. The performance evaluation is carried out through the performance metrics, PESQ and WSS and reveals the outstanding performance of proposed mechanism.

Keywords:
        Speech enhancement, Non-stationary noise, Sub band adaptive filtering, PESQ, SegSNR and WSS.

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Infinite Solutions On Ramanujan's House problem Through C-Program

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Abstract:--
Srinivasa Rumanian's house problem was well known to many Mathematicians. This problem has infinite solutions. Some people tried to calculate few solutions manually , though number of calculations involved in it. Some got few more solutions by using continuous fraction and Pell's equation. In this paper we write a Pseudo code to get infinite solutions for Srinivasa Rumanian's house problem up to the desired number.

Keywords:
Continuous fraction , Pell's equation

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A New Approach for Effective Medical Image Retrieval

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Abstract:--

The dominant rotated local binary pattern and histogram of oriented gradients are combined together which is useful to search the features of a medical image from a huge database. Similarity search has been done using hierarchical extreme learning machine of multi-layer perceptron and is merged with evolutionary algorithm to retrieve a medical image. This searching process is very easy, fast responsive nature and efficient for a new doctor or a doctor in a remote place to diagnose the patient. The dominant direction and histogram oriented gradients help the retrieving process to come with remarkable results. The quality of the retrieving process is tested for database and compared with state of medical image retrieval models. Content-based image retrieval is the application of computer vision techniques to the problem of digital image search in large databases. In this work, an image retrieval system based on curvature coding is focused.

Keywords :

Quality parameters, curvature, retrieval, texture

Comparative Study of Placement of Multiple DG's in an Integrated Distributed System

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Dr.Y.V.Siva Reddy, GPREC,Kurnool
Dr.V.Sankar , JNTUA,Anantapuramu

Abstract:--

Distributed generation units are mostly used to meet the Electricity demand. Integrated power distributed system (IPDS) is a hybrid combination of distributed generation (DG) units like Solar and Wind Energy, Diesel Generator and Battery storage .Different (DG)s are combined to satisfy the demand curve based on their availability at a specific time. Improper positioning of the DGs may affect the performance of the system. The accuracy in the placement of the DG would increase the overall performance of the system. In this paper the comparative study of placement of DGs in integrated distributed system is analyzed using 6 Bus and 14 Bus system.

Keywords:

Optimal Placement of DGs, PSAT, IEEE 14 bus system

Image Fusion Techniques for Visual Sensor Networks in DCT Domain

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T. Swati, Assistant professor, Department of ECE, G. Pulla Reddy engineering College
S.Siva Reddy, Assistant professor, Department of ECE, G. Pulla Reddy engineering College

Abstract:--

The objective of image fusion is to combine relevant information from multiple images into a single image. Image fusion techniques integrate images from many sources, providing a better application-wise visible image. Image fusion is mainly performed in spatial domain and frequency domain. Frequency domain methods include transformations such as Discrete Cosine transform (DCT) and Discrete Wavelet Transform(DWT). This paper mainly focuses on image fusion techniques in DCT domain based on contrast, variance, AC coefficients, special frequency and coefficient of correlation and presents a comparative study of their performance.

Augmented Breast Cancer Classification and prediction using machine Learning

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Abstract:--

The most frequently occurring cancer among Indian women is breast cancer. There is a chance of fifty percent for fatality in a case as one of two women diagnosed with breast cancer die in the cases of Indian women. Cancer may be a class of diseases, which is driven by change in cells of the body and increase beyond normal growth and control. Breast cancer is one among the frequent sorts of cancer. Prognosis of breast cancer recurrence is highly required to raise the survival rate of patient suffering from breast cancer. With the evolution of technology and machine learning techniques, the cancer diagnosis and detection accuracy has improved. A rule based classifier plays an important role in modern breast cancer diagnosis. The good classifier equips with high accurate classification rules obtaining from historical diagnosis. Since each diagnosis consists of a large amount of data features, it challenges to build minimal high accurate classification rules from such historical data. Basically, feature reduction techniques could help reduce a number of classification rules. But the trade-off is classification performance.

However, if we could find a technique of feature reduction giving high classification accuracy, it would help obtain minimal high accurate classification rules.

Index terms:

Machine learning, Prognosis, Big Data, Bioinformatics, breast cancer, classification Algorithms.

Blood Bank Management Using Agile Design Process

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Abstract:--

Agile methodology is a routine used for the development of the project which supports the respond to the volatility of building software through incremental, iterative work pace. A mobile application is developed using agile techniques. In this paper, a new and productive approach is proposed to solve the problem of blood bank management using UML and XP techniques. Just with simple touch donor will be requested to enter a person's details like name, telephone number, age, weight, date of birth, blood bunch, and address. At the time of emergency, information regarding donor can be checked using GPS nearby. Once the application is invoked, the user can enter the blood group which they require, it will show the donor details nearby and send an alarm message to the user. If the donor agrees for the request an OTP is sent for the verification process. If in case the donor rejects the request the next donor is automatically searched. Once the donor gives the blood it will remove the donor detail for next a quarter of a year.

Keywords:

Agile development, UML, Mobile Apps

Irrigation Automation using IoT

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G.Haritha , Assistant Professor,Department of EEE, G.Pulla Reddy Engineering College(Autonomous), Kurnool, India

Abstract:--
Cultivation is an integral part of millions of people's lives in an agrarian country like India. Employment in agriculture in India
was reported at 42.74 % in 2017 according to the World Bank estimate. Most of the irrigation is done using electric submersible pumps and traditional methods. The power cuts for irrigation is quite common in this land. Hence, farmers face many woes while working in their fields, especially during night hours, like electric shock, snake bites, extreme weather conditions. As many as 46,000 farmers die of snakebites in India alone every year, highest for any country in the world. Our current work finds cost-effective and an elegant prototype solution for smart irrigation anywhere, anytime basis, towards modernization of agriculture by using cloud computing based IoT scheme. A fully automated smart irrigation system is designed using Raspberry Pi platform and associated software and hardware from Xtrans Solutions. The remote unit is connected to moisture sensors, that uploads the sensed values to the cloud. Farmer can benefit from the unit through a smartphone with Android app. Irrigation happens in either of the two modes, viz. Manual mode and Remote Monitoring mode. In the former type, electric motor can be switched on/off via Android based RaspController App. In the latter case, the sensor determines the moisture level of the soil and turn motor on/off dynamically based on pre-set conditions. Python language is used for programming. In any of the cases, farmer is alerted through voice call, email and SMS about the status of the motor.

Index Terms—
Smart Irrigation, Raspberry Pi, Cloud, Moisture Sensor, Python.

Cognitive IoT : An Eco friendly Technology

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T.Manjula, Associate Professor,PBR VITS, Kavali,Andhra Pradesh,India

Abstract:--

Cognitive Technology is a new technology that resulted as an evolution of Internet of things. Internet of things has been already influenced the everyday life of human beings in terms of smart phones, smart watches, smart TVs, Security alert devices. Different sensors used in these devices, use the wireless communication media, some of which are harmful to human life. Artificial Intelligence has brought dramatic changes in the field of Internet of things in terms of automation. Cognitive computation now induces the cognitive capabilities in the field of Internet of Things for better decision making in complex environments. This paper focuses on how the cognitive capabilities are helpful for Internet of things, The resulting technology so called as Cognitive IOT has lead to an eco friendly technology. Thus the major goal of sustainability achieved by the cognitive IOT.

Keywords:

Cognitive IOT, Internet of Things, Cognitive Computation

Traffic Clearance for Emergency Vehicles

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G.Eswar Naidu, IIIrd Year student,CSE Dept., G Pulla Reddy Engineering College, Kurnool, Andhra Pradesh,India.

Abstract:--
    Traffic has became a major problem in most densely populated cities. The scenario will be most worst when an emergency vehicle like ambulance stuck in traffic. This may leads to the lose of lives sometimes. If the emergency vehicle tries to override the traffic signals it may leads to accident or creates traffic congestion. To overcome this problem we came up with solution with an automated traffic control system. The system designed is both cost efficient and find an accurate solution for this problem. This system is implemented by detecting the frequencies of emergency vehicles heading towards the traffic junction and monitoring the vehicles with use of sound sensors. The respective lane in which the emergency vehicle is travelling is cleared by transmitting the information through Xbee protocols and the Arduino at traffic junction wiil clear the way for vehicle by changing the signals accordingly.

Keyword:
    Traffic congestion, Ambulance, Sound sensors, Xbee.

An Overview of Generation Enhancement in Wireless Communication Systems

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Ashiwini Haryan, Department of Electronics and Communication, Viva Institute of Technology, Mumbai

Abstract:--

Soil is naturally occurring material that are used for the construction of all layers of pavement except Enhancement in wireless and mobile communication has a remarkable history of generation advancement adopted by more than four billion people today. In the near future, wireless data traffic will be increased exponentially, and the present wireless cellular network system is not capable to match technically this increasing trend. In this paper, generation with technical advancement is portrait as wireless technology progress from "Connected things" to "connected intelligence". Wireless communication system commence with first generation as voice calls unlock system. Progression of wireless communication system is prolonged with second generation and third generation by introducing new concept of digital modulation. Presently 4G offers new services as "anytime anywhere". With the increasing demand, drastic improvement is needed in the current technology. The prime objective of next generation (5G) to match dense traffic requirement is increased capacity, fast data rate transmission, smaller latency which will be launched very early. 5G will not be capable to fulfill the increasing user demands and artificial intelligence requirement of society till 2030, the new paradigm as sixth generation in wireless communication system is expected to commercialize the market in 2030. In this paper, the future vision of 6G technologies and roadmap to achieve 6G is portrait.

Keyword:

4G, 5G, 6G, Artificial intelligence, Ultra massive   MIMO.

Energy-Efficient Routing to Enhance Network Lifetime in Wireless Sensor Network: A Review

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R.Anil Kumar, Assistant Professor,KVSW,Kurnool
Dr.D.Kavitha, Professor GPREC,Kurnool

Abstract:--
      Over the past decade, the progress of low-cost sensors has made Wireless Sensor Networks (WSN) a very popular research area. This network is capable to operate in insensitive environments. WSNs are facing many problems, as sensors once being deployed cannot be replaced and recharged. WSN nodes are typically battery-powered devices which make them limited battery power operative. It is therefore important to have an energy-efficient path that maximizes the life of these nodes using minimal energy in different paths. Traditional energy efficient routing algorithms opt for the efficient path for data communication and less energy consumption. However, using a particular path can result in additional load on a particular node, reducing its lifetime and longer service. This paper reviews the issues and challenges of WSNs which influencing the energy-efficient routing and minimize energy utilization to increase the lifetime.

Index terms:
      Energy efficient routing, Network Lifetime, Wireless Sensor network.

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Vector Control of Induction Motor with Variable Sampling Frequency Random PWM Techniques for Reduced Harmonic Distortion

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Dr.M. Vijay Kumar, Department of EEE, JNTUA, Anantapur, AP

Abstract:--
This paper presents random PWM (RPWM) methods for vector controlled induction motor at variable sampling rate. to improve the steady state performance, space vector PWM (SVPWM method was used for vector controlled drives. this method requires more calculations and produces higher amplitude harmonics at around switching frequency. This results in increased harmonic distortion, electromagnetic interference and acoustic noise. Hence, this paper proposes different RPWM techniques that are able to reduce the harmonics at multiples of switching frequency. to simplify the PWM approach, the proposed approach generates the modulating signals in a simple scalar method and pulses will be generated in carrier comparison approach. Moreover, in the proposed methods the carrier frequency is varied in a limited range (±500 Hz), which simplifies the filter design. The effectiveness of the proposed methods is proved with both simulation and experimental studies.

Keywords:
Induction Motor, Random PWM, SVWPM, Vector control.

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Road Traffic Monitoring Using Image Processing At Signalized Intersection for Mixed Traffic Conditions

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Dr. Moses Santhakumar, Professor, Civil Engineering Department, National Institute of Technology, Tiruchirappalli

Abstract:--

In present days detection and tracking of moving objects are becoming more necessary to traffic engineers to assess the traffic volume on roads especially in mixed traffic conditions with no or little lane discipline. Estimating the traffic volume at intersections is again is an important assignment for the traffic engineers. Image processing is one of the best tools to evaluate the volume, speed and density of vehicles on roads. The present study provides an algorithm to count the number of vehicles on the road at Musheerabad junction signalized intersection in Hyderabad city. The traffic volume is determined by using the Image Processing tool, whereas the average speed of all the vehicles analyzed by using Traffic Data Extractor software. Then the density of vehicles present on the road including the pedestrians is determined. The traffic volume is also counted manually by observing video footage. Then the data of counting vehicles from Image processing and the manual count is compared. It is found that the Image processing tool is best suitable to count the traffic volume in urban areas under mixed traffic conditions accurately and is cost- effective.

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Advanced Analysis of Stock Market Prediction

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Abstract:--

Financial markets are fascinating Stock markets as the most rewarding career. Financial markets are producing vast amount of information when they go a long period. By using the data sets generated and recorded at the stock market will help us to analyze how many traders had made an decision to buy and sell, based on price and time. Three broad companies explaining about three different machine learning moral data and then comparing the results to see the best predictive of stock market production for future price. Thinking about the process of creating an investment strategy on deciding to make an investment in each, to figure out company most likely Google, Apple and Tesla which gives big returns. Generally research on companies history, and news in websites of company and its articles help to analyze fares over years and ensure price movement over time as shown in below figure .Mostly 80 percent trading volume of stock market is generated by algorithms. It explains about high frequency trading algorithm and also about prediction of the stock market . These algorithms usually use very simple methods like Rule based methods, linear regression and logistic regression model Prediction of stock market is most important is deep learning.

Index terms:

Sentiment analysis, High frequency trading algorithm, Rule based methods, Machine learning, Stock market.

Predictive Analytics in Use

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Abstract:--

In the real world integrating predictive analytics with information systems can generate good results. Predictive analytics include empirical methods (statistical and other) that generate data predictions as well as methods for assessing predictive power. Predictive analytics not only assist in creating practically useful models, they also play an important role alongside explanatory modeling in theory building and theory testing

Keywords

Data Analytics, Predictive analytics, Business Intelligence.

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Pulse Triggered Flip Flop using Conditional Feedthrough Scheme for Low Power Applications

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Abstract:--

In this paper, an efficient conditional feedback through pulse triggered flip flop is adopted. Pulse-triggered FF (P-FF) is a single-latch structure which is more popular than the conventional transmission gate (TG) and master–slave based FFs in high-speed applications. Power consumption was also reduced using a shared pulse generator and an output feedback-controlled conditional keeper which diminished the floating status of the internal node. The proposed work is implemented and simulated in CADENCE VIRTUOSO CMOS 180nm technology. The performance edges on power and power- delay-product metrics are obtained. These results suggest the proposed design to be a viable new option for high-efficiency sequential elements in high-speed applications.

Keywords

Conditional Feedthrough , Flip Flop, Low power , Pulse Triggered

High Speed CMOS Comparator Design for Dynamic Power Management in IoT Applications

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Abstract:--

By 2020, seven connected devices are projected to correspond to each human being[12].Such connected devices will follow the Internet of Things (IoT) and get into every aspect of human life. In order to power these devices,new strategies should recreated as these devices will not only have a dynamic load due to multiple features, but also dynamic sources if the rechargeable battery is supplemented by resourceful energy harvesting. The need for fine-grained power management in electronic ICs has resulted in the design and implementation of compact low drop regulators(LDOs) that are deeply embedded inside logic blocks[13]. Power Supply network(PSN) requires low drop out (LDO) regulators with high speed and low power comparators. A revised comparator architecture is modeled in 180 nm CMOS technology in order to achieve high speed and low power.A 2.5 volt comparator has been made. The engineering parameters of Cadence Virtuoso software 0.18 μm are used for development. Designed comparator demonstrates reduced power consumption and delay compared to existing comparators. For applications needing less energy dissipation, good accuracy and high resolution, comparators are used.

Keywords

Low power Comparator, low dropout regulators, Cadence Virtuoso tools, IOT.

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A New Three Phase Multilevel Inverter Topology with Symmetrical and Asymmetrical Algorithms

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Abstract:--

Inthe multilevel inverters, the complexity of the system will depend on number of switches and control schemes involved during the power conversion process. This article recommends a new three phase multi-level inverter topology with a minimum number of switchesfor PV system applications. This topology includes three level generating blocks and traditional two level three phase inverter.In each level generating block m-number of proposed basic units are connected in series to generate required number of voltage levels. But level generator will produce only unidirectional voltage levels. Then by connecting traditional three phase inverter we obtain bidirectional voltage levels. The proposed model is best in terms of reduction in power switches and control circuits than traditional topologies published in literature. Due to a smallernumber of elements, the overall size of the system is small andinstallation cost will be less. Additionally, a major factor 'FP' is introduced in this paper, where the factor 'FP' deals with the switch count required for generating the pole voltage levels. A comparison is done in between present and existing topologies based on this factor. In this script proposed topology is explained for symmetrical algorithm (SA) and asymmetrical algorithms (AA). The output performance of this topology is verified in terms of voltage THD through Matlab/ Simulink model.

Condition Monitoring and Life extension of Induction Motor

B. Koti Reddy, Scientific Officer, Department of Atomic Energy, Heavy Water Plant, Manuguru(Telangana State, India)

Abstract:--

Squirrel Cage Induction Motors are the most commonly used drives in industrial applications to drive majority of the production related Pumps and Compressors. Also their utilization is getting with the development of variable frequency drives for speed control. More than 50% of the world generated electrical energy is being consumed by these induction motors while driving their connected loads. They are more reliable, high efficient, rugged and simple in construction. Their cost is less when compared with others. Even though their designed shelf life is around 25 years, with proper Condition Monitoring, the breakdowns can be minimized and also their life can be extended. An attempt has been made in this paper to discuss about various faults associated with three phase Squirrel cage Induction Motor of LT category, different diagnosis methods applicable to them and the possible maintenance practices to enhance their life. One known case study is taken for analysis with its test details.

Keywords

Squirrel Cage Induction Motor, Condition Monitoring, Shock Pulse, Leakage Current, Polarization Index.

Seam Carving and Retargeting applied to Satellite image for Resizing

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Siva Reddy Sonti, Assistant Professor, G. Pulla Reddy Engineering College, Kurnool
Dioline Sara , Assistant Professor , GITAM School of Technology

Abstract:--
　　The Remote Sensing images gives information about the Earth. The four important factors of a Remotely Sensed Images are Spatial, Spectral, Radiometric and Temporal resolution. The high Spatial resolution images give more information compared to that of the coarse resolution images. The policy of the Satellite images on the free access by the users varies for different countries. In view of the threat to the national security, the access of high resolution images are restricted and these data is available to public with areas of strategic importance masked or obliterated. The current practice is that identified areas masked with "black patches" which will be seen in the images. In order to avoid such masking, the methods of Seam Carving (SC) used for digital still images are tried out in satellite images. Object removal is the application of seam carving on digital images. Seam carving is an efficient approach of image resizing without effecting image statistics (resizing by considering geometrical constraints). To overcome the inefficiencies and emerging counter methods in masking applied to satellite images, we suggested Seam Carving method for object removal to mask regions of strategic importance. We are removing AOI to preserve image. We tried SC to be applied to satellite images data, and studied its efficacy. Concepts of SC also suggest that the algorithm works efficiently well when applied to images of low information (i.e. low gradient change). The study was made for B/W images only. However, the technique can be extended to color composite also. The AOI selected is regular shape like a rectangle or square, and AOI for irregular shape can also be tried out using this technique.

Keywords
　　Seam carving(SC), Area of interest (AOI), (B/W) Black and White

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Induction Motor Fault Diagnosis Using Wavelets and FFT

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Shaik Tasardhik basha, Electrical & Electronics Engg, St. Ann's Engineering College, Chirala, India

Abstract:--

This paper proposes a protection scheme based on Wavelet Multi Resolution Analysis and Fast Fourier transform for detection and classification of various faults like Stator turn fault, rotor broken bars and Locked rotor faults of a three-phase induction motor. The three phase Induction motor is represented by a universal model which is valid for a wide range of operating frequencies. The simulation model has been to be simulated using MATLAB/Simulink software and tested for various types of Induction motor faults. The three-phase stator currents signals are decomposed by using Bi-Orthogonal 5.5 (Bior5.5) mother wavelet. Fault index is defined by using maximum value of the absolute peak value of the highest level (d1) coefficients. The fault index is compared with a predefined threshold to detect the fault.

Keywords

Fast Fourier transform, Fault index, Threshold, Wavelet Multi Resolution Analysis

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Facing the Callenges in 5G Using DPA-MaIMaO Architecture

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D.Subitha, Electronics and Communication Engineering, Saveetha School of Engineering, Chennai,India

Abstract:--

To provide alternatives to problems in the design of User Equipment, an architecture that switches between cellular information and WiFi, a study was performed on present techniques in use and presented a cost-effective cellular-WiFi design methodology using Multiple Array of Antennas where the beam can be electronically guided. Detailedoperation of how both Cellular data and WiFi changedsimultaneously and utilized concurrently was examined.

Keywords

User Equipment, Beamforming (BF), Massive MIMO, WiGig

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Institutions - Industry – Society Collaborative Learning Bring Success in Engineering Education in India

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Pallavi Goud, Assistant Professor, Department of Electronics and Communication Engineering, MLR Institute of Technology, Hyderabad , Telangana, India

Baskar M, Professor, Department of Information Technology, KCG College of Technology, Karappakam, Chennai -97, Tamil Nadu, India

Abstract:--
     Education is one which is the continuous event which shifts the people or whole society from the dark to light. From the past few decades' education and educational methods made drastic changes in our real life. Teaching and learning process has been made enormous growth in our society. Engineering education is literally different from the general teaching learning scenario. In this world, whatever we are seeing, feeling and experiencing all except the belongings from the nature are invented or innovated by engineering education. In the beginning of the era we are unaware about engineering background also we are not finding answers for the basic questions which are raised in our day to day life like why? how? what? when and where etc. But the engineering has proven that all uncertainties to the world even though which are not close to the imagination. This growth happened in Indian engineering is not up to comparable with worldwide growth. It is very clearly indicate that till we have to improve many things in our education systems. Even though we are competent to produce multiple lakhs of engineers per year, they are not qualified for availing the job directly. Many engineers are just fit in the job but that jobs are not relevant to their qualifications. Even though we are following our own systems as well as western education system which will not satisfied our needs.

Design and Implementation of GPS Based Medical Services Using Drone

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V. Arun, Associate Professor, Department of ECE, MLR Institute of Technology
SVS. Prasad, Professor, Department of ECE, MLR Institute of Technology

Abstract:--

This paper is aimed to provide medical assistance to people through the delivery of medical supplies by unmanned drones. The use of unmanned drones' benefits people in distant areas around the world. The paper gives attentionto the design of a biocompatible payload and a drone to accomplish medical supply delivery. Design of the drone healthcare delivery network isfacilitatingstructured and low-cost delivery of healthcare to save lives.

Dronesare capable of sustainable flight, which need not human presence on board, and have enough control for performingnecessary functions. This paper utilizes a range of hardware components and software platforms that were integrated into the overall design of the medical drone. Hardware components includes IMU enabled GPS, ArduCopter 2.6 Flight Controller, Data Transmission and Receiving module, Electronic Speed Control Circuits, DC Motors, Propellers, LiPo battery, Servo Connectors. GPS is used for navigation in betweenground stations that are automated, to deliver necessary medications in locations that lack enough roads. Unmanned aerial vehicle is remotely or automatically controlled. Software platform used is ArduPilot Mission Planner and mobile phone or tabletapps can be used to track and navigate. Network is managed by drone operating system to monitor weather data from every ground stationand it optimizes the drone routes in this proposed approach we are designing a paper which is effective in many applications like transporting blood and small emergency medicines such as first-aid kits. Unmanned Aerial Vehicles can be used in future to provide medical help in field of surveillance and at the time of earthquake, drones help rescuers to locate survivors.The military in combat can use drones, and it can also be used for humanitarian aid.

Three Level Inverter Algorithms

Urmila Bandaru, G.Pulla Reddy Engineering College, Kurnool, AP, India
M Siva Satyanarayana, G.Pulla Reddy Engineering College, Kurnool, AP, India

Abstract:--
      A three level and five level diode clamped inverters are popularly used models in industries for to avail variable speed. In this paper various algorithms are discussed in the process of obtaining variable speed from Constant Flux Control technique. Simulation is carried on all these algorithms for induction machine to conclude which algorithm does result the best in reduction in harmonics using MATLAB-Simulink.

Index Terms:
      Diode Clamped inverter, Pulse Width Modulation, Total Harmonic Distortion, Space Vector

Design and Development of Cloud based interactive Dashboards to visualize the Real Time Rain Fall Metrological parameters using Lightening Locker Service

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Kurudi Suresh, Department of Humanities and Basic Sciences, G. Pulla Reddy Engineering College (Autonomous), Kurnool
E.Nirmala Devi, Department of Humanities and Basic Sciences, G. Pulla Reddy Engineering College (Autonomous), Kurnool

Abstract:--
        Rain Measuring system (RMS) redefining the measuring and forecasting of rain fall information for farmers to stay connect to their agriculture fields and things they more care about. RMS enable the farmers to monitor and measure both infield and outfield metrological parameters like wind speed, temperature, atmospheric pressure, humidity and more. Each RMS consists the rain gauge sensor will track the rain parameters and transmitted to the cloud data sets vis wireless medium. The data sets results can be view from any electronic devices like smart phone, laptop and pc and so on. Further measuring rain fall data sets privately share to the public to the weather communities. RMS having capability to visualize trend observations, real time metrological parameters changes and analyzing historical data sets for graphic charting. RMS analysis the precipitation of the rain fall, so that the farmers can easily know that how much amount of water resources required for making land wet. MS intelligent alerts module gets notified of changing conditions of the weather by email or test message using third part SMS/Email services.

        To design and develop such intelligent forecasting systems, we used advanced technologies and libraries like Salesforce Einstein analytics, Lightening, Locker service, Chart.JS, Forcetk.js callouts for seamless visualization and maintain the state of the JSON (Java Script Object Notation) response of data sets generated. RMS used interactive .JS libraries, promising and outperformed in terms of the Quick render the data sets when compared with previous technologies.

A study of dual fuel operation on LHR diesel engine

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Prabhu kishore, Department of Mechanical Engineering, MLR Institute of Technology, Hyderabad , India
P. Suresh, Department of Mechanical Engineering, St.Martin's Engineering College, Hyderabad, India

Abstract:--

Importance of this investigation is 100% biodiesel make use as fuel for low heat rejection (LHR) diesel engine. Due to this reason bio-fuels namely, eucalyptus oil and paradise oil were selected and used as dual fuel. Conventional engine hardware parts were coated with lanthana-doped yttria-stabilized zirconia (the doping of YSZ coatings with small amount of La_2O_3) with a thickness of 300 μm, so as to analyze the operating parameters of paradise oil–eucalyptus oil blends. Tests run were replicated on the conventional diesel engine and outcomes were compared. Test outcomes confirmed that the major intention of this research was attained as engine operating parameters like, brake thermal efficiency, exhaust gas temperature were increase with decrease of fuel consumption. In addition, engine emissions of HC, CO and smoke were reduced with exception of NO_x for LHR diesel engine than conventional engine.

Keywords:

Lanthana-doped yttria-stabilized zirconia, paradise oil, Eucalyptus oil, Duel fuel, Emission.

Graphical abstract

Research on VLSI solution for Image Integrity Protection Schemes for IPTV Applications

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Prashant V Joshi, Associate Professor, School of Electronics and Communication Engineering, Reva University, Bengaluru, India

R Karthik, Professor, Department of Electronics and Communication Engineering, MLR Institute of Technology, Hyderabad India

Abstract:--

Image authentication technique aims to protect illegal modification of image and thus assuring the image authenticity and integrity. This paper presents a literature survey of the emerging techniques for watermarking-based image authentication and its implementation by using FPGA is presented with the detailed description of existing watermarking-based image authentication schemes. A characteristic analysis for all introduced schemes and comparisons of them in terms of various parameters.

Index Terms

FPGA, Image authentication, Robustness, Watermarking method

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Kelvin Probe Studies on Sensor Response Characteristics of H_2 with Pt Metal at ppm Level Concentrations under Non-Zero Humidity Conditions

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Abstract:--

In the present study, Kelvin Probe (KP) is used to measure the shift in work function (WF) of a thin Pt film, deposited on oxidized silicon substrate, on exposure to diluted hydrogen gas. The WF shift is measured at different H2 concentrations in synthetic air and its sensing behavior is studied for MOSFET configuration. A fixed flow of 100 sccm of the test gas is maintained for all the measurements. The 20% of diluted gas is flown through a water bubbler to obtain the required humidity in the test gas. The sample temperature is maintained at 30oC in the test chamber. The response characteristics i.e. changes in WF with respect to H2 concentration is evaluated by using a suitably modified Hewlett Packard Visual Engineering Environment (HP VEE program), a graphical programming language. The response characteristics are recorded for ascending and descending orders of hydrogen concentration with a time cycle of 20 min 'on' state and 20 min 'off' state for each concentration of diluted hydrogen. An empirical relation is derived from the observed shift in WF with respect to H2 concentration. It is observed in the present investigation that the response is almost linear for low concentration values and the WF shift is reversible to a large extent in this range of concentration. The evaluation of response time (τ90) suggests saturation in WF shift of the film at about 500 ppm of H2 concentration.

Index Terms

Kelvin Probe, H_2 Sensing, ppm Level Concentrations, Response Time (τ_{90}), Work Function Shift, Pt-H_2 System for MOSFET

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An RCB approach based Marginal WSN for Reliable Transmission

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Abstract:--
      Wireless Sensor Networks are the primary source of reliable data transfer in various application domains. But the distribution of dense and marginal network can lead to many conflicts during the dense data distribution. This issue can also be a primary cause to data loss during the transmission and the delay in the application environments. The researchers in this area are most successful in reducing the delay time but failing to minimize the information loss during transmission. The present study in this case proposed a solution as an approach than can solve the problem in the application environments. Multi-Path Reliability Data Transmission (MPRDT) approach is proposed that can be more effective in the marginal networks. The mechanism adopts a mechanism of redundancy that can realize the efficiency in the transmission and implements the parallel technology and contributes to the transmission of data packets. Duplicate data packets are generated before transmitting the original data that the sensor node (SN) requires to transfer and forwards the same to an aggregate node via multi-path. An intermediate node is used during the transfer to improve the reliability. An experimental approach is implemented and the obtained results are clearly analyzed. The results shown that the proposed MPRDT technique improves the reliability of data transmission and simultaneously reduce the packet loss. It is also observed that the technique has improved the life time of the network and maintained regular data transmission.

Index Terms
      Wireless Sensor Networks, Multy-path Reliability, marginal network.

IOT Driven Automated Object Detection Algorithm for Urban Surveillance System in Smart City

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Abstract:--
      Automated object detection algorithm is an important research challenge in intelligent urban surveillance systems for Internet of Things (IoT) and smart cities applications. In particular, smart vehicle license plate recognition and vehicle detection are recognized as core research issues of these IoT-driven intelligent urban surveillance systems. They are key techniques in most of the traffic related IoT applications, such as road traffic real-time monitoring, security control of restricted areas, automatic parking access control, searching stolen vehicles, etc. In this paper, we propose a novel unified method of automated object detection for urban surveillance systems. We use this novel method to determine and pick out the highest energy frequency areas of the images from the digital camera imaging sensors, that is, either to pick the vehicle license plates or the vehicles out from the images. The other sensors like flame and ultrasonic sensor are used to monitor nearby objects. Our proposed method can not only help to detect object vehicles rapidly and accurately, but also can be used to reduce big data volume needed to be stored in urban surveillance systems.

Artificial Intelligence-The Roadmap for Enriched and Incredible Human Life.

Jahnavi chennamsetty, G.Pulla Reddy Engineering College

Abstract:--

As a social being, it is incumbent on all of us to make sure we are building a world in which every individual has an opportunity to thrive. With the same Understanding I penned what AI can do and how it fits into our strategy, I tried to encapsulate the things what makes AI different from other technology that is how it's going to bring humans and machines closer together, about the pessimistic idea about machines replacing humans And the illustrious victories of AI that astonished people.

This paper also includes the introduction, mechanism and recent developments in AI. By which I have concluded that predicting the future isn't magic it's artificial Intelligence .It is one of the milestones to shape the future.AI is exhibited by artificial entity, a System by which we can expect a cultural and skill shift. AI could spread its wings in medicine, engineering, military as well as in many common home computer software applications like in computer chess and other games.

Reduction of Common Mode Voltage for 3-Level Inverter Fed DTC of Open End Winding Induction Motor Drive

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Abstract:--

A scalar based carrier comparison Reduced Common Mode Voltage Pulse Width Modulated (RCMVPWM) schemes is implemented for 3-level dual inverter fed Direct Torque Control (DTC) of Open End Winding Induction Motor (OEWIM drive). In scalar based approach, the modulating signal is obtained by adding zero sequence signal to sinusoidal signal. In this paper, a simplified Space Vector Pulse Width Modulation (SVPWM), RCMVPWM algorithms such as Active Zero State Pulse Width Modulation (AZSPWM) and Near State Pulse Width Modulation (NSPWM) algorithms were obtained by scalar approach. SVPWM algorithm utilizes zero voltage vectors which are responsible for generation of CMV. Moreover, the CMV injects Common Mode Currents (CMC) into the bearings. As a result, the bearings were damaged. Since the RCMVPWM techniques were not utilized zero voltage vectors and therefore CMV is reduced significantly. The analysis of CMV and the Total Harmonic Distortion in stator current of induction motor carried out in this paper. The present work can be illustrated by the simulation results of the MATLAB.

Index Terms -

COMMON MODE VOLTAGE, DTC, SVPWM, DPWM, AZSPWM, NSPWM, THD

Location interference in social media for Non-Geotagged posts in timeline's

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Abstract:--

As the users of social media like twitter usage is increasing day-to-day, especially accurate location and information of the user makes a quality success by identification of geographical location of the data by using different mediums. Foster Tweets are more powerful, more clickable, and more sharable. In this we compare the predictor variables and tackle the problem of inferring location of tweets for non geo-tagged social media analysis from prominent theoretical perspectives in several stages. Success mainly depends on high availability and accuracy, different models, and various algorithms are used by us to achieve high accuracy in inferring location of the user which are non geo tagged. In this paper we design models which are effective at inferring locations for non geo-tagged tweets, where tweets are clustered prior. Each cluster is pre-defined with locations at city level.

Index terms:

CMC, Geotagging, linguistics, GMM, social media, Twitter

Live Weather Report Using Internet of Things with Graphical Display

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Abstract:--

This paper presents the development of a cyberphysical system that monitors the environmental conditions or the ambient conditions in indoor spaces at remote locations. The communication between the system‟s components is per-formed using the existent wireless infrastructure based on the IEEE 802.11 b/g standards. The resulted solution provides the possibility of logging measurements from locations all over the world and of visualizing and analyzing the gathered data from any device connected to the Internet. This work encompasses the complete solution, a cyber-physical system, starting from the physical level, consisting of sensors and the communication protocol, and reaching data management and storage at the cyber level. The experimental results show that the proposed system represents a viable and straightforward solution for environmental and ambient monitoring applications.

Index terms:

Cyber-physical systems (CPSs), IEEE 802.11 standards, Internet of Things (IoT), wireless communication.

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Design and optimization of Microstrip Patch Multi Band Antenna For Wireless Communication Using Deffected Ground Structure with Fractal geometry

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Abstract:--

In this paper rectangular slotted defected ground structure (DGS) multiband microstrip fractal antenna has been proposed. The proposed DGS slots uses self affine fractal geometry concept. The geometry is extended up to two iteration which resonates at penta band frequencies. The proposed fractal patch antenna function at 2-4 GHz (S-band) and 4-8 GHz (C-band) frequencies and finds uses for military and secure telecommunication and C band frequency applications like Wi-Fi , Radio Detection & Ranging and satellite communications. All designed antennas are optimized by IE3D software simulation tool with Fire Retardant-4 epoxy (FR-4) material having 4.4 dielectric constant, 1.6mm thick and tan(δ) (loss tangent) 0.02. By placing rectangle structures in the ground plane(DGS) of the proposed antenna the different parameters of all antennas have been examined in terms of antenna radiation efficiency, bandwidth, VSWR, return loss, gain and resonant frequency. The proposed microstrip antenna exhibits multi band, simple structure with low cost dielectric material and overall size has been reduced.

Index terms:

Microstrip Antenna, Multiband, Defected ground structure (DGS), Gain, Resonant Frequency, Fractal Geometry and Return Loss.

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UWB Antenna Design with Band Notch Characteristics for Cognitive Radio Applications

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Dr.S. Nagaraja Rao, Professor and HOD, Dept. of ECE, G.Pulla Reddy Engineering College, Kurnool, Andhra Pradesh, India.

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Abstract:--

This paper presents the design of ultra wideband monopole antenna that can resonate over a range of frequencies from 2GHz to 10GHz which is suitable for cognitive radio applications. The antenna is equipped with Split Ring Resonators which can notch two narrow band frequencies 4.47GHz to 4.82GHz, 6.94GHz to 7.77GHz and wide band greater than 8.41GHz. The design is simulated and the results are obtained using HFSS electromagnetic simulation software.

Index terms:

Wideband Monopole, Split Ring Resonator, Wideband, Cognitive Radio.

Iaas level Internet of Things Based Aquaculture Data Monitoring System with Network Topology Analysis

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Abstract:--

In this paper we have design an internet of things system for pure water aquaculture applications. Initially the IoT system routing topology is analyzed using network simulator to improve the quality of service by extracting the performance indices parameters. Eventually the IoT system is implemented practically using sensor nodes, internet gateways and application interfaces. Overall the system can monitor the parameters like temperature, PH, dissolved oxygen, light and nitrite which are primarily required in aquaculture application. The present aquaculture industry demands these type of water quality monitoring system, which helps the farmers to take smart decisions to increase the yield. The application of the aquaculture system is developed using infrastructure as a service cloud computing. The network topology routing analysis is done on number of nodes required over 5km x 5km area for high quality of service.

Index terms:

IoT, WSN, network routing, quality of service, sensors, aquaculture, network simulator.

Sentiment Based Rating Prediction through Textual Reviews

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Abstract:--
Now a days, the Social Media has become very popular to share the users viewpoints to their friends by using various social networking platforms. It makes obligatory for the users to post their reviews for other users to know about the quality of the products. In this paper, information overloading problem are discussed. So, a Sentiment-based rating prediction method is proposed to improve the prediction accuracy in the traditional recommender systems. User trusted friend, Item reputation and User Sentiment similarity factors are introduced. In this, the three factors are fused into the recommender systems to make accurate rating prediction. The performance evaluation of three sentimental factors on the user datasets, product datasets are considered. As the result, it helps to improve the recommendation performance.

Index terms:
Sentiment analysis, User sentiment reviews, Recommender systems, Item reputation, Rating Prediction.

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Power Quality Improvement of a Decentralized Hybrid Sustainable Energy System

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Abstract:--

At present scenario world's biggest challenges are unequivocal and continuing rise in the average temperature of earth's climate system due to fast growth through intensive industrialization and demand for quality of electric power. The dependency on renewable energy sources reduces carbon emission percentages intern reduces the percentage emission of carbon. Power quality and efficiency are the major concerns in a decentralized hybrid sustainable energy system due to its unpredictable nature. In this paper, addressed to reduce the carbon emissions by building a mathematical model of a new featuring sustainable hybrid system with a wind energy system and solid oxide fuel cell system. The work is further focused on power quality issues aroused in a geographically weather dependent, wind energy system due to its wind variations, wind random noise and wind gust. As these impacts limits the freedom of utilizing different power sources, causes a variable voltage and output powers especially in a weak grid system. Additionally, attention is devoted to model a most promising custom power device Unified Power Quality Conditioner using artificial neural networks to improve the power quality in a MATLAB/Simulink environment. The results demonstrated the effects of power quality and effective operation of the conditioner to improve the power quality of a hybrid decentralized power system.

Keywords

Renewable energy systems, hybrid sustainable energy system, distributed power generation, fuel cell system, power quality.

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PV Solar Generator Integrated with the Grid with an effective Constant Current Controller using Fuzzy

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Abstract:--

This paper presents an effective constant current controller for Photovoltaic (PV) solar generator integrated with the grid using a fuzzy controller. Most renewable energy systems work in co-occurrence with the existing electrical grids. Also, inverter technology plays a major role in interconnection of renewable electricity systems, with a best quality power to the grid at an economic cost. A high-power aspect and less hormonic distortion are expected from an inverter. For this reason, the effective control techniques need to be considered. Therefore, the most important current control techniques are investigated in this paper. This paper proposes the Comparison of Constant Current and Hysteresis Controlling Techniques for a grid connected PV system.

Keywords:

PV system, Boost Converter, PWM converter, PLL current control, Hysteresis Controlling Techniques

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IoT Based Smart Energy Meter and Monitoring Device

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Abstract:--

The main objective of this paper is to know the electricity consumers about their usage of power by the means of IoT. The usage of ARDUNIO microcontroller and the help of the Wi-Fi module makes this project based on IoT. To set the limit value of the power and if the limit value exceeds, the whole information about this power usage will get to our mobile via messages, emails, calls, etc. We use the ADA fruit server and IFTTT for this process.

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Design and Simulation of SPWM using Python

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Abstract:--

This paper introduces an open-source Python-Spyder simulation tool used to develop the Sine PWM in Python environment. This open source tool is a Scientific Python Development Environment, includes many number of key features to create a SPWM for a two level inverter system. Along with the regular general-purpose array-processing package - numpy and object-oriented API for GUI systems - matplotlib another supporting package which works with the numpy is - scipy are used for the generation of the SPWM for a two level inverter. The results indicate that the Python-Spyder simulation tool offers significant advantages over single-rate simulations that use either full phasor or full EMT simulation approach. It provides faster simulation time and less computational intensity than the other simulation tool packages.

Keywords:

Python, Spyder, numpy, scipy, matplotlib, SPWM.

Enhanced Dynamic Active Power Channel Execution for Inexhaustible Power Age Frameworks

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Abstract:--

The boundless increment of non-direct loads now-a-days huge measures of consonant streams are being infused into control frameworks Symphonious ebbs and flows course through the power framework impedance, causing voltage bending at consonant ebbs and flows frequencies. The misshaped voltage waveform makes symphonious streams be drawn by different burdens associated at the purpose of normal coupling (PCC). The presence of current and voltage in control frameworks expands misfortunes in the lines, diminishes the influence factor and can cause timing mistakes in touchy gadgets hardware's. The constant interest in influence arrange has made the framework be vigorously stacked prompting voltage insecurity. Under substantial stacked conditions there might be lacking responsive power making the voltages drop. This drop may prompt drops in voltage at different transports. The outcome would be the event of voltage fall which prompts add up to shut out of the entire framework.

The dynamic power channel for non-direct load alongside its control plot and furthermore executed with a four-leg voltage source inverter utilizing a prescient control conspire is exhibited. The dynamic is utilized to repay the receptive power, lessen current music and voltage mutilations in the power framework. The dynamic power channel gave better exhibitions in the high voltage non-direct load remuneration. Sustainable power source with Buck-help converter is utilized to adjust the dc interface voltage. The prescient controller use to enhance the execution of the dynamic power channel, particularly amid transient working conditions, since it can rapidly take after the current– reference flag while keeping up a steady dc voltage.

The dynamic power channel is associated parallel to the point of basic coupling is utilized to remunerate the responsive power, lessen sounds in the source current and furthermore infuses the dynamic power from the sustainable power source into the framework through VSI. The APF comprises of 4-leg VSI, 3-legs are expected to repay the 3-stage streams and 1-leg remunerates the unbiased current. The fourth leg expands changing states from voltage to framework enhancing control adaptability and yield voltage quality, and appropriate for current unbalance remuneration. The remuneration execution of the proposed dynamic power channel and the related control conspire under unfaltering state and transient working conditions is exhibited through reenactments and test results.

Keywords:

Active power filter, current control, four-leg converters, predictive control, fuzzy controller.

Axial-Flux Permanent-Magnet BLDC Machine Modeling, Design, Simulation and Analysis

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Abstract:--
Conventional DC motors are highly efficient, however, their only drawback is that they need a commutator and brushes which are subject to wear and require maintenance. The above mentioned deficiency of the conventional solution can be overcome by the new type of DC drive based on brushless DC motors operating without mechanical transmission. The brushless DC motors are permanent magnet motors where the functions of commutator and brushes are implemented by solid state switches. The brushless DC motors are distinguished not only by the high efficiency but also by their low maintenance. The permanent magnet motors used in this case are single phase or poly phase motors. When operating with single phase or poly phase motors, the inverter plays the role of the commutator. In this project single-phase inverter is considered. The stator coils of the motor can be connected in single-phase system. These connections imply the single-phase or poly-phase inverters which supply the winding. The type of winding influences the performance of the motor.

Keywords:
BLDC motor, axial flux, RFPM.

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A Review on Image Enhancement Methods

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Abstract:--

Image enhancement plays a key role in mammography for improved analysis of breast cancer detection. Inadequatequality of mammogram images may produce obscureexpectation about the results in breast cancer predictions. Traditional image enhancement approaches, such as median filter, morphological method, wavelet transformation, contrast stretching is produced animproved quality of images, in mammography, it is needed to emphasize the boundary and edge features with good quality. Demonstration of efficiency and provisional results are exhibitedin the empirical study using mammogram image datasets.

Modeling of Methyl Methacrylate Emulsion Polymerization in a Seeded Semi-Batch Reactor

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Abstract:--
A mathematical model is developed to describe the seeded semi-batch emulsion polymerization of methyl methacrylate in the presence of sodium dodecyl sulphate as emulsifier and potassium persulfate as initiator. Monodispersed particle size distribution assumption (all the particles have the same size at a given time) is used in developing the model. In the seeded semi-batch reactor, some amount of the monomer is present initially in the reactor along with the emulsifier, initiator, and water. After certain pre-feed time or after the seeding stage, the monomer is fed to the reactor till it is completely fed. This is called the feeding stage. After the feeding stage, the monomer present inside the reactor reacts to completion; all the monomer is converted to polymer. The effects of two different monomer feed rates on the variation of conversion with time at 50 °C isothermal reactor operation, keeping all the other ingredients constant are studied by the model. The parameters of the model are taken from literature and it is found that the variation of the conversion with time at the two different flow rates were in agreement with the experimental data taken from literature with no adjustable parameters

Key-words:
computer model; emulsion polymerization; methyl methacrylate; particle nucleation; semi-batch reactor

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Recent Development of Automation and IoT in Agriculture

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Abstract:--

This paper presents a brief overview of the automation and IoT (Internet of Things) used to enhance good agricultural practices. Robotics can be efficiently used in food safety and makes it environment-friendly by using the appropriate use of chemicals. Robotics is also helpful in testing land quality and to choose the appropriate crop for the land. The robotic weed control system is highly beneficial. Development of reconfigurable robot is very important because in the future agricultural land decreases and multitasking robots are required to make it fast and maintain quality, present robots are single task targeted robots. The smart farming also helps to maintain the humidity, temperature and irrigation process. The main aim of this study to making agriculture smart and efficient by applying automation and IoT techniques.

Key-words:

Automation, IoT, Robotics

Three Phase Space Vector PWM Based Multilevel Inverter for Pumping Applications

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Abstract:--

This paper presents a three phase modular multilevel inverter (MMLI) topology with reduced number of sources, switches and eliminates the need of flying capacitors and its associated problems like capacitor unbalancing, capacitor overcharging bulky size, cost etc. The switching pulses for the MMLI are generated through space vector modulation (SVM) algorithm for reduced harmonic distortion (HD) in output voltage and current. The MMLI consists of basic three phase two level inverter with additional bidirectional modules in each phase. The bidirectional module consists of four diodes and a switch that can conduct in both directions. This topology can be easily extended for higher output levels with appropriate number of modules in each phase. Theoretical description is given for five level MMLI and results are presented for 11- level MMLI feeding an induction motor suitable for pumping applications. Also, the reliability of the inverter is tested for two conditions open circuit and short circuit of a phase in a module.

Key-words:

MMLI; Space vector PWM; Pumping applications.

A Survey on Healthcare Monitoring System Using Video Conferencing and Smart Technology

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Abstract:--

In earlier decades, the technology that was used in the medical field was traditional and time-consuming; As the technology is evolving by times, it proportionally helps in the development of the medical field. In cities, largely the rationale expressed is a time issue, in term period for rural areas; it's totally a different quandary. Recently National Health Profile (NHP), 2018: predicted the number of doctors and patient to be in the ratio of 1:1000 respectively. The information kiosk present in the public booth is used to deliver the data using automated system. By integrating with the video conferencing technology, transmits the audio and video signals for the patients present in the various location which gives the real-time effect. Most of the individuals obviate the requirement for consulting a doctor for some minor illness like fever, abdomen pain, headache etc. Handling different patient with identical names may often lead to confusion in regards to medical records. Due to the shortage of medical facility in rural areas often forces individuals to decide on self-medication. A Smart Healthcare Monitoring System (SHMS) provides individual consultation with a doctor through live Video Streaming (VS) may additionally save time spent on appointments and travel. The patient's pre- history stored in the database is constantly updated and the health status is persistently checked so that the health status of the donor can be easily checked before receiving the blood reducing the risk of transmitting the infections and diseases to the receiver. Such a service in villages can give veracious medical facility to the necessitous that has perpetually been a priority. So as for the "doctor's want and patient's preference", the case history of the patient is additionally continuously tracked within the cloud storage. The history of the patient is stored in the base, known by novel range identification for each subject using Radio Frequency Identifier (RFID) which analyses the stock-rate of the medicines. KIOSK is detached booth used as a medical dispenser which is utilized for checking in patients for appointments and record management. It also helps the doctors to make distance-surgery via highly embedded optical fiber lines with blooming 5G technology.Entirely,SHMS is used to emphasize the need of people especially in a rural areas to be beneficial and spark the ignorance and light-up the proper medication by reducing self- medication and death rates.

Key-words: Healthcare; Data Analytic; Kiosk Technology; Cloud Storage; Video Consultation.

IOT Driven Automated Object Detection Algorithm for Urban Surveillance System in Smart City

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Abstract:--

Automated object detection algorithm is an important research challenge in intelligent urban surveillance systems for Internet of Things (IoT) and smart cities applications. In particular, smart vehicle license plate recognition and vehicle detection are recognized as core research issues of these IoT-driven intelligent urban surveillance systems. They are key techniques in most of the traffic related IoT applications, such as road traffic real-time monitoring, security control of restricted areas, automatic parking access control, searching stolen vehicles, etc. In this paper, we propose a novel unified method of automated object detection for urban surveillance systems. We use this novel method to determine and pick out the highest energy frequency areas of the images from the digital camera imaging sensors, that is, either to pick the vehicle license plates or the vehicles out from the images. The other sensors like flame and ultrasonic sensor are used to monitor nearby objects. Our proposed method can not only help to detect object vehicles rapidly and accurately, but also can be used to reduce big data volume needed to be stored in urban surveillance systems.

Evaluation and Evolution of Object Detection Techniques YOLO and R-CNN

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Abstract:--

Object detection has boomed in areas like image processing in accordance with the unparalleled development of CNN (Convolutional Neural Networks) over the last decade. The CNN family which includes R-CNN has advanced to much faster versions like Fast-RCNN which have mean average precision(Map) of up to 76.4 but their frames per second(fps) still remain between 5 to 18 and that is comparatively moderate to problem-solving time. Therefore, there is an urgent need to increase speed in the advancements of object detection. In accordance with the broad initiation of CNN and its features, this paper discusses YOLO (You only look once), a strong representative of CNN which comes up with an entirely different method of interpreting the task of detecting the objects. YOLO has attained fast speeds with fps of 155 and map of about 78.6, thereby surpassing the performances of other CNN versions appreciably. Furthermore, in comparison with the latest advancements, YOLOv2 attains an outstanding trade-off between accuracy and speed and also as a detector possessing powerful generalization capabilities of representing an entire image.

Keywords-

CNN, R-CNN, Fast R-CNN, Faster R-CNN, YOLO, Image processing, Object detection