ICEECS-2020

International Conference on Recent Trends in Electrical, Electronics and Computer Science Engineering

Deokali, Uttar Pradesh
10th - 11th January, 2020

Organized by:

**Uma Nath Singh Institute of Engineering & Technology
V B S Purvanchal University, Jaunpur, UP, India**
In Association with

P E S College of Engineering, Mandya

and

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)* in association with *Uma Nath Singh Institute of Engineering and Technology, Veer Bahadur Singh Purvanchal University, Jaunpur* & *P.E.S. College of Engineering (PESCE), Mandya*. I am delighted to welcome all the delegates and participants around the globe to Uma Nath Singh Institute of Engineering and Technology for the *"International Conference on Recent Trends in Electrical, Electronics and Computer Science Engineering (ICEECS-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,UNSIET & PESCE)** 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 *Jaunpur, Uttar Pradesh.*

Sincerely,

Rudra Bhanu Satpathy

Preface

The *"International Conference on Recent Trends in Electrical, Electronics and Computer Science Engineering (ICEECS -2020)"* is being Organized jointly by *Uma Nath Singh Institute of Engineering & Technology, V B S Purvanchal University,* Jaunpur, UP, India and *PES College of Engineering*, Mandya in Association with *IFERP-Institute for Engineering Research and Publications* on the $10^{th} – 11^{th}$ January, 2020.

Uma Nath Singh Institute of Engineering & Technology has a sprawling student –friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the major city of Jaunpur in Uttar Pradesh.

The *"International Conference on Recent Trends in Electrical, Electronics and Computer Science 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 **"Electrical, Electronics and Computer Science Engineering"** which were given International values by *Institute for Engineering Research and Publication (IFERP).*

The International Conference attracted over 193 submissions. Through rigorous peer reviews 78 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.

ICEECS -2020

Message from Chief Patron

Prof. (Dr.) Raja Ram Yadav

Vice-Chancellor

VBS Purvanchal University

I am extremely happy to learn that the sincere efforts put in the establishment and spreading of core academic ecosystem within the University Campus from couple of year back has started being visible out of which organizing events like the International Conference on Recent Trends in Electrical, Electronics & Computer Science Engineering is a praise worthy step started by the Faculty of Engineering & Technology, namely Uma Nath Singh Institute of Engineering & Technology. Uma Nath Singh Institute of Engineering & Technology running within the campus of VBS Purvanchal University, Jaunpur is a beneficiary of the MHRD grant of Technical Education Quality Improvement Program Phase – III and is the topmost performer in the State of Uttar Pradesh among all the Government/ University – run/University level Technical Institutions. For such achievement by this Institute it is the only Institute of Uttar Pradesh that has fetched additional allocation of fund from MHRD. This International Event is a part of TEQIP – III activities. The Conference will provide a forum to all Stake holders including students to interact on various technologies in the front areas of Electrical Engineering, Electronics Engineering & Computer Science Engineering, where the world is seeing spectacular technological trends. I wish to the organizers of the Conference a grand success.

Prof. (Dr.) Raja Ram Yadav

Message from Chief Patron

Dr. H D Chowdaiah

Chairman, People's Education Trust®

"Education is simply the soul of a society as it passes from one generation to another". It is our deepest desire to serve the society by moulding the technocrats and business leaders of tomorrow. To this end, we have endeavoured to create a world class educational institution that is complete in every way. Be it facilities or faculty, curriculum or career guidance, we seek to offer the very best to our students. Education that is thorough, purposeful and meets the requirements of today's job market; education that disciplines and inculcates values; education that is in tune with the changing dynamics of today's competitive world - that is the kind of education that P.E.S. College of Engineering, Mandya, Karnataka, offers.

I am happy that PES College of Engineering and Uma Nath Singh Institute of Engineering & Technology are organizing International Conference on Recent Trends in Electrical Electronics and Computer Science Engineering (ICEECS-2020). On behalf of the ICEECS - 2020 Organizing Committee, it is a great pleasure for me to welcome all the participants to the ICEECS - 2020. The aim of the Conference is to provide a forum for delegates from the industry and academia to exchange ideas and presenting their research works. In addition, it is an ideal venue for interactions and for them to establish the all-important contacts with each other.

I wish the conference great success

Dr. H D Chowdaiah

Message from Conference Chair

Prof. B B Tiwari

TEQIP Coordiantor and Head

Department of Electronics Engineering, UNSIET, Jaunpur.

Being TEQIP III beneficiaries both of the twining partners Uma Nath Singh Institute of Engineering &Technology and PES College of Engineering Mandya have been harvesting maximum benefits through mentor mentee practices as prescribed by NPIU New Delhi. We are one of the best twinning partners in the country as is evident by earlier JRMs and our performance grading in related audits. ICEECS-2020 is an outcome of our several rounds of joint discussions at Mandya and Jaunpur. ICEECS- 2020 is fourth in a sequence to be organised but this time at our premises. Large number of scientist, professors and engineers will be converging providing ample opportunities for interaction for all concerned I am very particularly thankful to Professor HV Ravindra, Principal PES College of Engineering Mandya for his support and favour in this event. The peculiar features during the event is tutorial classes being organised in the stream of Electronics Engineering , Electrical Engineering and Computer Science and Engineering for which experts from the reputed institutions have been drawn to interact with the audience. A good number of plenary talks, invited talk besides keynote speech by the Chief Guest and oral & poster presentations constitute the core program in the event . I hope that the deliberations in the event shall go a long way in the pursuit of academics. I bid good luck for the success of the conference.

Prof. B B Tiwari

Message from Conference Chair

Dr. H V Ravindra

Principal

P E S College of Engineering, Mandya

Research activities across all the engineering fields pave the way for the industrial world to strive forward with huge advancements. As an educational institution, encouragement and support to research can be provided by establishing a suitable platform for the research community, to interact with each other and to share the knowledge. To achieve this objective P E S College of Engineering, Mandya and Uma Nath Institute of Engineering & Technology, Jaunpur in association with IFERP are organizing ICEECS - 2020 to provide the same benefits and learning experience to all the participants. Sessions on different domains, key note addresses from eminent professors and opportunity to network with the researchers will help the participants immensely in their research career. This proceeding of the conference has been documented with utmost care. I acknowledge the efforts of Prof. B B Tiwari, TEQIP Coordinator in planning and execution of this twinning activity as part of TEQIP-III at UNSIET, Jaunpur. I believe strongly that, this will stand as a great source of knowledge for researchers. With great pleasure and pride, I welcome all the participants and convey my best wishes for ICEECS - 2020.

Dr. H V Ravindra

ICEECS-2020

International Conference on Recent Trends in Electrical, Electronics and Computer Science Engineering

Keynote Speaker

Prof. Sang Won Yoon

Associate Professor

Systems Science and Industrial Engineering

Binghamton University, New York

"Applying Artificial Intelligence in Smart Electronics Manufacturing"

Abstract

In this talk, Dr. Yoon will address discuss how to apply artificial intelligence, machine learning, and deep learning approaches in surface mount assembly and smart electronics manufacturing. By successfully developing and integrating artificial intelligence methods, the surface mount assembly processes will be automatically optimized and controlled. Then, meaningful patterns from the massive surface mount assembly data can be recognized, critical assembly process parameters that are significantly related to defects in the surface mount assembly lines can be identified, and the potential printed circuit board fabrication failures can be avoided by early detection and prevention. Eventually, fewer defects can be achieved and the operational cost of surface mount assembly can be reduced significantly. The following topics will be discussed in this talk; 1) stencil printing process noise analysis and dynamic simulation, 2) closed-loop feedback control & optimization; 3) stencil printing abnormality and cleaning analysis; and 4) online chip mounter offset control

BIOGRAPHY

'Prof. Yoon is a recipient of the SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities in 2019 and a highly successful researcher who leads many productive long-term industry collaborations. As an Associate Professor of Systems Science and Industrial Engineering at State University of New York at Binghamton, he directs the Complex System Design and Analysis Laboratory and is a faculty member of the Watson Institute for Systems Excellence. Prof. Yoon leads collaborations with various industry partners and has secured over $6 million from more than 60 industrial research projects. Prof. Yoon has been studying a variety of emerging research domains including 1) distributed decision making, 2) large-scale data analytics and predictive modeling, and 3) production & manufacturing systems optimization and has published in over 130 internationally renowned journals and conference proceedings.

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ABSTRACTS

Study of Total Harmonic Distortion (THD) Reduction By Filter in Renewable Energy Inverter

Abdul Hafeez, Assistant Professor, Department of Electrical Engineering, Rajkiya Engineering College, Ambedkar Nagar, U.P, India

Dr. S.P. Singh, Assosiate Professor& Head, Department of Electrical Engineering, Rajkiya Engineering College, Ambedkar Nagar, U.P, India

Abstract:--
     This paper is about study of Total Harmonic Distortion (THD) reduction by using filter in inverter output circuit. As the trend of renewable energy is increasing, there is a need of low cost inverter with sufficient good power quality output. First inverter output is found in different mode of operation then LC filter is connected across load and modified response is found and THD is compared for different types of working modes. Low THD is very important for improved power quality. For result, simulation of inverters is created in MATLAB/Simulink Software and THD from their out responses is compared to get the best topology for good power quality.

Index Terms:--
     Total Harmonic Distortion (THD), Inverters, Filters, renewable energy.

On the FIB Fabrication of Nano-Gap Metal Electrodes and Nature of their I-V Characteristics

Abhishek Kumar Singh, Department of Physics, Darbhanga College of Engineering, Darbhanga, Bihar, India
Amit Kumar, Department of EEE, Darbhanga College of Engineering, Darbhanga, Bihar, India
Saket Kumar, Department of ECE, Muzaffarpur Institute of Technology, Muzaffarpur, Bihar, India

Abstract:--

Copper and platinum electrodes with a nano-gap of ~100 nm have been fabricated by milling of thin metallic films by a focused ion beam (FIB) system. The current-voltage (I-V) characteristics of platinum electrodes are shown to follow V3/2 dependence in accordance with the classical Child-Langmuir's law while those of copper electrodes measured inside the FIB chamber (residual pressure of ~10-6mbar) correspond to tunneling at low voltage and Fowler-Nordheim (F-N) quantum mechanical tunneling above 8.4V. The field enhancement factor (β) is found to depends on the surface homogeneity, cross-sectional area, gap of electrodes, and varies inversely with the applied voltage (value lies in the range of 8-21)

Keyterms:--

Focused ion beam, Nanostructure fabrication, SEM

Face Recognition and IoT Based Smart Lock Access System

Ajay Kumar, Student, Department of Electronics & Communication, MJPRU, Bareilly, India

Amritanshu Upadhyay, Student, Department of Electronics & Communication, MJPRU, Bareilly, India

Ashish Kumar, Student, Department of Electronics & Communication, MJPRU, Bareilly, India

Dr. S.K. Tomar, Professor, Department of Electronics & Communication, MJPRU, Bareilly, India

Abstract:--

Now a days people face many problems regarding their secuirity & privacy hence secuirity of our home is first priority.

With the advancement of technology all devices are going to be digital and automatic so we have to change or modify our conventional things to smart and digital.So we are going to implement a door mechanism which is based on face recognition system.This system replace our conventional door to smart door and also our secuirity of home will improve.

In this system a live camera is mounted over the door which is connected to raspberry pi which process the data captured by the live camera and try to matches with our database.In facial recognition system when a person wants to enter to the door then camera captures the image of that person and identify out of the image.

Our aim is to implement a smart door based on IoT which detects the face of person and try to identify from the database and if the face is matched then the system allow the access to the person and door will open otherwise system denied the access and door will remain closed.

Facial Recignition System will done with Microsoft face API and Microsoft Visual Studio IDE detects the face and all data is stored in the Microsoft Azure Database.

1) ***Some Main Advantages***
   - No need to carry door keys.
   - Others can not open the door by stealing or by duplicating the key.
   - Only authorized person can enter to the door.
2) ***Introduction to Raspberry Pi 3B+***
    It is a kind of development board,we can connect any type of sensors to Raspberry Pi 3B+ model through GPIO pins.It has onboard provided with 1GB RAM with quad core cortex A53 CPU.

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Performance Analysis of Rectangular Microstrip Patch Antenna at selective Frequency using Tunnel Diode

Priti Sharma, Assistant Professor, Department of ECE, VBSPU, Jaunpur, U.P, India

Abstract:--

A simple design of Rectangular Microstrip patch Antenna using tunneling effect at different value of capacitance(C) of patch.. The proposed antenna is designed and simulate using MATLAB Release2009a.at selective frequency 41 GHz. Simulated result demonstrate that range of capacitance of patch switched between Range (0.0650pF to 0.0855pF). Simulated Return loss between -40.86 dB to -50.97dB & different value of VSWR between 1.11 to 1.298 can be achieved.

Keywords

Microstrip Patch Antenna, Tunnel Diode, Capacitance

An Approach to Smart Parking Algorithm Using Gps Mapping and Genatic Ant Colony Algorithm

Ankita Yadav, M.Tech. Student, Computer Science and Engineering Department, Integral University, Lucknow, India

Mohammad Arif, Associate Professor, Computer Science and Engineering Department, Integral University, Lucknow, India

Abstract:--
This research proposed a Smart Parking Algorithm using GPS mapping and Genetic Ant Colony algorithm which provides an optimal solution for parking problem in cities. Because of the rapid increase in vehicle density especially during the peak hours of the day, it became difficult for the drivers to find a parking space and thus this difficulty lead to congestion and traffic. The purpose of this research was to resolve the above mentioned issue and to minimize the waiting time of the user. There were defined data set of a city that included different parking location and their slots. Each slot acted as a parking labels and these labels were defined by their latitude and longitude. The free parking space closest to the driver's current location was found by genetic ant colony algorithm. The user requirements such as type of vehicle, duration (preferable timings), and distance acted as pheromones. Once the user provided the necessary requirements, the Algorithm then predicted the best solution by informing the drivers about the number of available parking spaces and in which they direction they should be directed. An approach to Smart Parking Algorithm using GPS mapping and Genetic Ant colony Algorithm is cost-effective, a good approach for traffic management and best way to inform drivers about the nearest vacant parking slot.

Index Title –
Smart Parking, GPS mapping, Ant Colony, Genetic, Pheromones, Cost-effective

A Real Time Approach to Compute Distance between Objects for Automated Tasks

Ankush Pandey, Department of I.T., R.E.C. Ambedkar Nagar, Uttar Pradesh, India
Ashish Kumar Mishra, Department of I.T., R.E.C. Ambedkar Nagar, Uttar Pradesh, India
Ramesh Chand Pandey, Department of I.T., R.E.C. Ambedkar Nagar, Uttar Pradesh, India

Abstract:--
　　　To prepare models of automated tasks such as self-driving cars, generation of maps for remote areas or smart surveillance systems are becoming popular nowadays. In this article, the attempts have been made to create Artificial General Intelligence (AGI) to compute distance between objects for automated tasks. In some aspects, machine learning techniques are lacking with rule based systems. Therefore, it is vital to integrate machine learning techniques with rule based systems. There are many tasks which can be done very fast and accurately using rule based algorithms. In some complicated cases such as object detection or face recognition, it may not be a better choice. A real time and rule based approach for computing the distance between objects has been described in this article. This approach is based on algebra, image processing, and optics. It can help to fasten our machine learning algorithms to compute distance between objects. The existing works in this domain are very naïve and the distance of objects was calculated from the camera just by seeing an image. These existing approaches require specific knowledge about the specification of object like height or width or size. However, with the proposed approach, the distance can be computed without any requirement like that. The proposed method successfully computes the distance between objects with commendable performance. The accuracy of proposed method varies in the range of 99.99% to 90.21%.

Keywords:
　　　Distance Calculation, Car Automation, Surveillance, Optics, Algebra, Image Processing, Rule Based Models, Object Detection.

Phishing Detection: A Literature Survey

Smita Sindhu, Department of CSE, B.M.S. College of Engineering, Bengaluru, Karnataka, India

Sunil Parameshwar Patil, Department of CSE, B.M.S. College of Engineering, Bengaluru, Karnataka, India

Arya Sreevalsan, Department of CSE, B.M.S. College of Engineering, Bengaluru, Karnataka, India

Faiz Rahman, Department of CSE, B.M.S. College of Engineering, Bengaluru, Karnataka, India

Saritha A. N, Assistant Professor, Department of CSE, B.M.S. College of Engineering, Bengaluru, Karnataka, India

Abstract:--

Phishing is a major threat in today's world. Online fraudulent acts are on the rise with the fast-growing online technology. Financial sector has been affected the most with the phishing technique. This paper explains the different methods that are used to detect phishing. The paper analysis the techniques, the advantages and disadvantages in each method and also the extra features that can be added to current existing systems. The paper is concluded with the proposed model for phishing detection.

Index Terms—

Phishing, Machine Learning, Deep Learning, NLP

Retinal image analysis for ROP Plus diagnosis and detection

R Manjunatha, Department of ECE, P.E.S.College of Engineering, Mandya, India
Dr.H.S.Sheshadri, Department of ECE, P.E.S.College of Engineering, Mandya, India

Abstract:--

In this work an attempt is made to address the Retinopathy of prematurity (ROP) plus disease analysis and verification of the developed methods and algorithms in consultation with the ophthalmology expert. Few of the test cases were used in analysing the vessel width dilation and tortuosity of the retinal image features for setting and confirming the thresholds to classify the cases as normal and abnormal.

The adopted thresholds are testified for confirmation by running the algorithmic simulation for a set of selected test cases chosen from the study reported by other groups. The results of which showed the set threshold as good measures in predicting. Further to gauge the accuracy of the algorithm expert opinion were collected and compared with the results of algorithmic simulation for a selected test cases. The outcome of the approach showed the accuracy of the algorithm to be >75%.

Keywords –

DVW, OPBA, RI, ROP

Smart Garden with IoT based Plant Monitoring System

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Lalit Gond, Department of Electrical Engineering, Rajkiya Engineering College, Ambedkarnagar, UP, India

Dr. A.K Mishra, Director, Rajkiya Engineering College, Amedkarnagar, UP, India

Abstract:--

Internet of things (IoT) is a system of interconnected electronic devices through the internet due to which users and machines can interact which each other. Interactions include the exchange of real-time data (from devices to consumers) and commands (from consumers to devices). This paper presents IoT based smart garden which can be used to monitor the plant growth by monitoring the soil moisture and availability of sunlight throughout the daytime. Why monitor through IoT based device? In today's fastgrowing world people are very much busy in there works and usually forget to water their plants or couldn't place the flower pot at the right place where there is sufficient sunlight. Hence our system is equipped with light intensity and soil moisture sensor. It checks the moisture content soil and the availability of sunlight for the plants on regular time intervals basis and the data is collected by the Bolt IoT platform. After the data is processed and verified by a logic created using Integromat (cloud-based logic designing), accordingly an SMS is sent to our smartphone through Twilio (cloud communication platform) and then the user will take required action according to the data. This smart gardening system will provide convenience and comfort to the user without their physical presence and helps better care of our garden.

Keywords:

Smart Garden, Bolt Wi-Fi, Integromat, Internet of Things

Path Optimization: A Potential Approach to Path Planning Using Machine Learning

Anum Kamal, M.Tech. Student, Department of Computer Science and Engineering, Integral University, Lucknow, India

Faiyaz Ahmad, Assistant Professor, Department of Computer Science and Engineering, Integral University, Lucknow, India

Abstract:--

An efficient path optimization is said to find the shortest path from source to destination that takes less time, avoiding heavy traffic, where time being considered as the most important factor. But such is not always the situation. There has been a lot of research done on finding the optimized routes for many purposes like movement of autonomous vehicles, robot movement, aircraft movement, vehicle navigation etc. All these past researches focuses on finding a single efficient path based on a single predefined factor such as time or energy consumption. Most of the past approaches of path optimization had used algorithms like dijkstra and A*. This work has improved the ability of already existing researches on path optimization. It aimed at developing a more efficient path optimization algorithm that helped to overcome the major drawbacks of the previous system. The objective was not only to focus on the three factors namely time, distance and traffic but to include energy consumption and availability of resources according to the customer specification. It also focused on finding out multiple routes from the source to destination, giving a user various path options to decide from, according to the current need. The combination of algorithms: Floyd - Warshall and 0/1 Knapsack were used to get the optimal paths. While the best path according to the customer need was found using LSTM Algorithm based on customers feedback and past experiences. All the above finding were presented on a map for better understanding. The major advantage of this approach is its potential to navigate routes according to the specified resources, simultaneously providing multiple route options to choose from.

Keywords:--

Path optimization, Multiple routes, Energy efficient, Resource efficient, Path planning

Real Time Prediction to Open a New Shop Using Customer Location

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Ashish Kumar Mishra, Rajkiya Enginering College, Ambedkar Nagar, UP

Ramesh Chand Pandey, Rajkiya Enginering College, Ambedkar Nagar, UP

Abstract:--

To find a popular location for opening a new shop is beneficial for the achievement of a future business. The Various Surveys by people and the analytics based models are based on statistics data which are very time consuming and not user friendly to the dynamic market. Due to increase of data from different electronic media such as online data inquiry and offline positioning survey, there is requirement to introduce the accurate and automatic forecasting model for real time prediction of a location for business purpose. In Real Time Location Prediction (RTLP), we model a frame of reference for location prediction for business store site selection by rational and historical data of customer location. This detects the customer demand distribution location for various business services and taking dataset from Google maps (it is the greatest online mapping service in India) .It also found the gaps between demand and supply in various business services. Then, we determine the customer locations through clustering. At the end we find the solution for location optimization problem using customer location. We not only use unsupervised Machine Learning (ML) models to predict the density of customers, but here we find the nearest customer to that shop. We estimate our framework on various types of real world business problems on site location detection and determine the accuracy of results of our methods. The experimental results of the proposed methods provide good shop location with commendable processing speed (4.49 Seconds).

Keywords:--

Real Time Location Prediction (RTLP), Customers, Shop, k-Means

Remote Sensing Satellite Data Analysis applied to precision Agriculture Modeling

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Shiv Kumar Tomar, Research Scholar, Delhi Technological University, Delhi, India

Abstract:--
This paper focuses on the Image Analysis of Remote Sensing Data Integrating Spectral, Temporal and Spatial Features of objects in the area of satellite image processing. We have used the multi-spectral remote sensing data to find the spectral signature of different objects of the different regions for the land cover classification, how the use of land changes according to time and also performed the temporal analysis to analyze the impact of climate over the surface. Some band combinations of remote sensed data are effective in the land cover classification. Spatial distributions of land cover types such as roads; urban area, agriculture land, and water resources can easily be interpreted.

The method by which agriculture variables from different remote sensing data are derived for the retrieval of the quantitative parameters by the use of various multispectral remote sensing sensors, inter-calibration issues between the different methods had to be taken into account, in order to assure the comparability. Features affecting vegetation indices, such as the sensor geometry, atmospheric conditions, topography and spatial or radiometric resolution

However, the factors taken into account within this study are the spectral characteristics of the different sensors, like band position, bandwidth and centre wavelengths, which are described by the relative spectral response functions. Vegetation Index and the Weighted Difference Vegetation Index between the various sensor pairs by regression, based on simulated multispectral sensors. The assessed method of combining the multi-spectral information by calculation did not bring sound results and was out performed by single sensor use, only taking into account the multispectral information. All the findings of remote sensing and statistical data are applied for agriculture input parameters estimations. Agriculture input parameters on the basis of remote sensing data is the major advantage of this technique, of the large spatial overview undertaken.

The next issue was, if it is possible to integrate the agriculture variables gained from multispectral data into agriculture growth model, increasing the final yield estimation accuracy. Thus far, beneficial linkages between both techniques have been often limited to land use classification via remote sensing for choosing the adequate model and quantification of agriculture growth and development curves using biophysical parameters derived from remote sensing images for model calibration. Overall, the integration

of remotely sensed variables into the agriculture growth modeled to improved final yield estimation accuracy in comparison to an automatic input parameter setting to obtain optimized yield.

Finally, the integration of remote sensing data in agriculture growth model allowed it's spatial application for prediction of agriculture production at much better scale. This approach also outperformed another evaluated method of direct multi-sensorial yield estimation. This study has demonstrated that biophysical parameters can be retrieved from remote sensing data and led, into an agriculture growth model, to improved final yield estimation for sustained agricultural production not only developed countries but for developing countries.

IOT based Automatic Irrigation System and field protection from animals

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Abstract:--

This project on "IOT based Automatic Irrigation System and field protection from animals" is intended to create an automated irrigation mechanism which turns the pumping motor ON and OFF on detecting the moisture content of the earth and protecting the crops from animals in an efficient manner. This automated irrigation project brings into play an microcontroller board, it is programmed to collect the input signal of changeable moisture circumstances of the earth via moisture detecting system and detecting animals via infrared sensors and giving feedback to the farmer along with scaring animals using flash light and hooters.

Now the working of the project

The agricultural field will be sub divided into small sub fields (cell), each sub field will be identical to each other in terms of number and type of sensors and size.

Each cell will contain a moisture sensor which will provide a continuous data to a pre-programmed microprocessor, whenever the moisture content goes below a threshold limit the microcontroller will automatically turn on the water supply and after the field is irrigated the water supply will be stopped by turning off the pump.

The farmer will get a notification via message on mobile when task is completed.

In addition the farmer will also have a facility to turn on-off the water pump manually in case the farmer wanted to irrigate the field according to his requirement.

This whole irrigation process will be via drip irrigation.

The cells (sub fields) will also be protected via animals. Infrared sensors will continuously send information to the microcontroller and whenever infrared sensor will be blocked a set of flashlights will flash and a set of speakers will produce a high pitch sound which will scare the animal or group of animals.

This automatic irrigation system and field protection from animals will save the farmer from intense labor and will help the farmer to get maximum output from the field.

Centrality Based Fuzzy Clustering Approach for WSN

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Abstract:--

WSN is the collection of sensor nodes which are wirelessly connected to each other. The main task of the sensor nodes is to retrieve/sense the information from their surrounding and provide this information to the end user. Sensor nodes are very small in size and their batteries have very low power. So, we have to make energy efficient algorithms for clustering to increase the lifetime of battery as well as WSN.

Cluster Head (CH) election is very crucial part in clustering because it affects the performance of WSN. Clustering algorithms revolves arounds the Custer Head selection process.

In this paper, fuzzy logic is used to calculate the Resultant factor with the help of Remaining energy, Distance to sink and Centrality of the node. Then we choose 10% nodes which have highest value of Resultant factor and make them Cluster Head.

Keywords:--

WSN, Cluster, Sensor Node, Cluster-Head, Multi-Objective Optimization, Sink, Base Station

Design of Low Power and Area Efficient Cmos Full Adder Using Pass Transistor Logic

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Abstract:--

The scaling based advantages of a VLSI or ULSI circuits has been reaped over the years showing effective solutions for the portable appliances. Irrespective of the technology VLSI circuits can be made more efficient with the exploitation of architectural advantages. One of the primitive architectural schemes is based on use of pass transistor logic. In this paper, the design of a low power and area efficient hybrid full adder is presented using both CMOS logic and also pass transistor logic. The design involves minimal number of CMOS elements. Further the design is implemented using 180nm technology in CADENCE tool and is simulated for number of test cases. The proposed design found to be effective in comparison with the previously designed circuits. The simulation results show the effectiveness in terms of area, speed and power dissipation for a single stand by cell.

A Review Paper on Modeling, Generations and MPPT Techniques of Solar PV System

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Himanshu Bhushan, Assistant Professor, Department of Electrical Engineering, SRMGPC, Lucknow, Uttar Pradesh, India

Dr. Sachin Singh, Assistant Professor, Department of Electrical Engineering, IET, Lucknow, Uttar Pradesh, India

Abstract:--

Today the rate of depletion of conventional resources is at a very rapid pace. So, there is a need to shift the attention to the alternative resources of energy out which solar energy is owed. Solar energy is the radiant light and a heat from the sun that is harnessed using a range of ever-evolving technologies like solar heating, photovoltaic, etc .In this paper, the modeling of the photovoltaic cells along with their characteristics and circuit diagram is illustrated. And different existing maximum power point tracking techniques have been analyzed and compared.

Keywords—

PV Generations, Solar Cell, MPPT Techniques, Photo current, Genetic Algorithm

Song generation using AI

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Abstract:--

Main theme of this paper is to build two different models based on deep neural network concept to generate music and lyrics. The first model will use the provided input of songs and create music after learning from it. Similarly, the second model will be fed with lyrics of different existing songs. Learning from this input, the model will generate a new set of lyrics. Once both the music and lyrics are generated, the lyrics are converted to audio by text to speech algorithm and then the results are combined to give a complete and melodious song.

Design, developing device and apps (D3A) for Alzheimer's & Missing Child in a Fair using IRNSS Application

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Abstract:--

The senior citizen in generally come across many chronical diseases due to age, the food, climate, financial and moral support of their family. This can be reduced only by love and affection. The main memory holding effect by the SC in really very difficult to case them. In this paper we are developing apps for the missing SC from this disease like Alzheimer and Parkinson's. They can be identified by fixing embedded system in their dress or ornament where the patient adore. Applications of IRNSS (Indian Regional navigational satellite systems), supported by the open software.

Autonomous Indoor Navigation Robot

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Alen Thomas, Dep't. of Computer Science and Engineering, Dayananda Sagar University, Bangalore, India

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Abstract:--

A programmatic approach to be able to an autonomous indoor navigation robot without the use of cameras, by taking into consideration the values of time, accelerometer and gyroscope. Time and direction of motion plays a major role in the development of this project. We aim at developing an autonomous indoor navigation robot for warehouse Management. Warehouse management refers to the various processes related to maintaining and controlling a business' warehouse. It goes through every step of the process, from beginning to end, and is usually overseen by warehouse managers. Starting from incoming freight and moving on to asset tracking and logistics, warehouse management encompasses everything that happens in a warehouse. Our goal to make use of the system developed in such conditions. Further, it can be used for rescue operations with the Integration of cameras and real-time environment mapping.

Keywords

Indoor navigation, robot, Warehouse management.

A Review on Modeling and MPPT algorithm for Wind Energy Conversion System

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Abstract:--

Wind energy is one of the most widely used renewable energy source around the globe. The wind energy technology is advancing with a rapid pace and there are several existing Maximum PowerPoint tracking algorithms developed by researchers. In This paper mathematical modeling of wind energy system has been analyzed and some commonly used power electronics converter topologies are discussed. Also, an attempt has been made to analyze and compare different existing modern MPPT techniques.

Index Terms:

Wind Energy Conversion, MPPT techniques

Organized by:

Uma Nath Singh Institute of Engineering & Technology,
V B S Purvanchal University, Jaunpur, UP, India
In Association with

P E S College of Engineering, Mandya
and

Institute For Engineering Research and Publication (IFERP)

Effect of Neural Network Generalization on the Online Handwritten Pattern

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Dr.Kumara Shama, Manipal Institute of Technology, E & C Department, Manipal, India

Abstract:--
      The work focusses on the recent trends on pen computing applications. Online handwritten patterns are acquired using pen tablets. In Online handwritten systems, data is acquired during the writing, which provides the dynamic movements of the pen trajectory with the time. The acquired online patterns are preprocessed, and angular information for the successive points are extracted. These features input to the Feed Forward Neural Network model. Supervised Learning methods are implemented, and the performance of the system is evaluated for the generalization capability of the Neural Network on online handwritten patterns. The selected patterns are vertical, horizontal and with various angular strokes. The evaluation results demonstrate the robustness Neural Network for online pen strokes. The Neural network exhibits significant generalization for unseen, a new set of data.

Performance Analysis of OIDMA System using Soliton Pulses

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Abstract:--

This article contains the comparative analysis of optical Soliton pulses verses Gaussian pulses, used in convolutionally coded OIDMA system. Earlier a lot of work has been done on OIDMA system using LASER source at input with Gaussian pulses and the output detection is done by APD. An optical Soliton pulse which is intense and narrow in shape has the property to propagate larger distance in non linear optical medium without changing its shape and velocity. Such optical Soliton pulse property is utilized in OIDMA system and BER of system is analyzed. The complete OIDMA system is programmed on MATLAB and at the electrical to optical conversion section, the LASER diode with 1mW input power and Gaussian shape pulses, and optical Soliton pulses are connected separately for comparative analysis purpose.

Evolution in Mobile traffic offloading Strategies & challenges faced by it in HAN architecture

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Abstract:--
In current era of information and communication technology (ICT) we are witnessing the tremendous growth in the advancement of technology as well as the unprecedented growth in mobile data traffic. Mobile Network Operators (MNO's) are liable to meet the user demands by providing a good quality of service (QoS) and to reduce traffic congestion by using a specific cost reduction factor. Most of the MNO's earlier provided a solution for meeting user demands and lightening traffic over the network by upgrading the network architecture i.e. by buying the licensed cells (Macro's) which although increased the capacity of the network but costs a fortune, every time whenever there was a need for expansion in network capacity. Mobile data offloading is a feasible solution which includes offloading the excess traffic on the cellular network onto the Wi-Fi networks. In this paper review is carryforward which describes what exactly means to offload traffic from one network onto the other, its advantages, neck to neck challenges, strategies and new advancements in this technology.

Keywords:
MNO's, Traffic Congestion, Licensed Cells, Mobile Data Offloading

An Intelligent IoT based wireless sensor network for monitoring of water quality by using RNN in Real-Time

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Abstract:--

Water is the main source of life, good quality water is needed for many purpose like drinking, agricultural use, industrial use, medical use and many more. This paper presents a way to monitor water quality into a real-time environment. Nowadays IoT (Internet of Things) and WSN (Wireless Sensor Network) are used in many areas for research, monitoring and analyzing data. Water quality monitoring is one of them, the availability of good quality water is depleting day by day. With the help of IoT and WSN, the quality of water can be monitored in real-time environment. The monitored data is send to a cloud server and then it is compared to the already existing past data through RNN (Recurrent Neural Network). The cloud server stores these data sets on the basis of pH and mineral level in water. At the end of the process a message is send to a cloud server stating whether the 'water is usable' or 'water is not usable' after comparing current status with the standard parameters of water quality. An intelligent IoT based wireless sensor network is used for monitoring, predicting and analyzing the quality of water.

Keywords:--

Water Quality Monitoring, Internet of Things, Wireless Sensor network, Recurrent Neural Network

Application of Remote Sensing and Image Processing for Efficient Urban Planning in India

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Abstract:--

This paper focuses on the Image Analysis of Remote Sensing Data Integrating Spectral, Temporal and Spatial Features of objects in the area of satellite image processing. We have used the multi-spectral remote sensing data to find the spectral signature of different objects of the different regions for the land cover classification, how the use of land changes according to time and also performed the temporal analysis to analyze the impact of climate over the surface. Some band combinations of remote sensed data are effective in the land cover classification. Spatial distributions of land cover types such as roads; urban area, agriculture land, and water resources can easily be interpreted.

In India, population pressure on agricultural land is higher as compared to the past. Fertile agricultural land is more appropriate for agricultural uses rather than non- agricultural uses. Horizontal expansion, therefore, offers a limited solution to growing demand of land for urban uses. The horizontal growth of cities also affects the prospects of agricultural activities, as more and more farmland is being used for non-agricultural purposes. Also, it would be difficult to provide basic amenities if cities continue to grow horizontally beyond a certain limit. Researchers have therefore emphasized on vertical expansion rather than a horizontal one as strategy of urban planning. Unlike the situation in the cities of developed west, vertical expansion in the context of a city of the size of Bareilly, offers a sustainable solution for growing demand of land. It will save the agricultural land. Also, the vertical expansion helps to provide basic facilities to the population because it reduces the cost of such services. Therefore, the government will have to promote vertical expansion rather than horizontal expansion for the time being.

Controlling Home Appliances by GSM System

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Abstract:--
  Home automation system is getting popular and widely used in a lot of houses worldwide. It has tons of advantages to users even more to the handicapped and/or elderly users in which it will make it easier for them to control their home appliances. Home automation systems can be labeled to two medium in which how it is connected and they are either wired or wirelessly connected. The main difference between these two kinds is that home appliances are linked wirelessly a central controller if it a wireless home automation system. On the other hand, the appliances are connected to a central controller if the medium use wired communication method. Wireless system had been introduced in order to dispose of wired communication among home appliances. Arduino based, Bluetooth based home automation will be applied. Convenience and ease of using home appliances is what home automation is offering. Home automation offers a futuristic way of life in which an individual gets to control his entire house using a smart phone, from turning on a TV to locking/unlocking doors; it also offers an efficient use of energy

  The main aim of this paper is to control home appliances using GSM Technology which serves for global. This paper mainly focuses on the controlling of home appliances remotely and providing security. When the user is away from the place of the system, it can be SMS based and uses wireless technology to revolutionize the standards of living.

Travelling Salesman Model for Election Campaigning of Lok Sabha Constituencies of Vidarbha Region

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Abstract:--

Election Campaigns of various Lok Sabha as well as Vidhan Sabha Constituencies has been part of Indian democracy which repeats in every five years. The demographic of centrally situated Vidharbha region constitutes 11 districts in which most to the airports has been no more in commercial operations expect the Nagpur Airport. This research work is an attempt to provide an optimum route (by road) for the Lok Sabha election campaigning using Travelling Salesman Model. The application serves to any political party planning to cover maximum constituencies in minimum time and also provides the trade-off between the utilization of cost and time.

Keywords

Travelling Salesman Model, Optimum route, Trade-off

Optimization of Transportation Model based on Agricultural Products available in Maharashtra Region

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Abstract:--
Good transport system is equally important as compared to any agricultural marketing. While analyzing transport of agriculture products, it is identified that transport costs has critical role in recognizing the link between accessibility and agricultural development. The objective of this research work is to provide an initial feasible solution and an optimum solution by using the scientific methods of the transportation model which reduce the cost of transportation. The application serve to plan the optimum strategies with respect to the available demand and supply of agriculture products in Maharashtra region

Index Terms
Transport System, Optimum strategies, Demand and Supply

Application of Travelling Salesman Model for Ashta-Vinayak of Vidarbha Region

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Abstract:--
The religious tourism sector of Vidarbha region includes visit to one of the famous chain of eight temples called "Vidarbha che Ashta-Vinayak". The location of these eight temples is situated in Nagpur and its peripheral districts. This research work is an attempt to provide an optimum route (by road) for visiting these eight temples using Travelling Salesman Model. The application serves for planning, that can cover maximum of these temples in one day or an alternative of two days. It also provides the trade-off between the utilization of cost and time that can be afford by an individual, family or by a large group.

Index Terms
Tourism sector, Travelling Salesman Model, Planning

Review on Energy Consumption of the Sorting Algorithms and Involvement of Programming Language

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Shashank Shekhar Tiwari, Assistant Professor, Rajkiya Engineering College, Ambedkar Nagar
Shivendu Mishra, Assistant Professor, Rajkiya Engineering College, Ambedkar Nagar

Abstract:--
In the era of the computer revolution, the computer is making us completely digital dependent on digital gadgets. Reducing energy consumption by using optimized programming techniques and energy efficiency algorithms, in order to maximize the uptime of various battery operated devices has been an interesting research topic. Many years ago, computing was performed on the basis of lesser space and quicker calculations were performed inconsiderable amount of time. Recent past energy consumption is one of the major objectives for selecting computing algorithms to achieve power efficiency and to fulfill the objective of Green Computing. This study mainly concentrates on the analysis of energy consumption of some standard sorting algorithms implementation in different programming languages, which are not only used in various devices directly but also used very frequently as a part of various other complex algorithms.

Glaucoma Detection: An Approach Using Hybrid Texture Feature Descriptors

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Abstract:--
      In this paper, we proposed Glaucoma detection in retinal fundus images using hybrid texture based Local Binary Pattern (LBP) and Gray Level Co-occurrence Matrix (GLCM) feature descriptors. The significant features are extracted from LBP,GLCM, and LBP+GLCM. Finally, significant features are used with the Support Vector Machine (SVM) classifier for the Glaucoma detection. The proposed hybrid texture feature descriptors method are used on RIMONE dataset for the experimentation and empirical results show that the proposed LBP+GLCM hybrid feature descriptors is efficient than other state-of-the-art techniques.

Grain Traceability in Supply Chain on Agricultural Based on Blockchain Technology

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Jay Prakash, Madan Mohan Malaviya University, Gorakhpur, U.P., India

Abstract:--

The transport and the mobilized age of agricultural product buildup an energized focus on the quality, security, and approval of low significant principles in food and agricultural supply chain. The creating issues identified with food safety and security. Pollution dangers have built up a huge requirement that goes about as a basic quality managing security of items in the farming production network. Blockchain is a problematic development that can offer an inventive response for build traceability in food and agricultural supply chain. In this paper, we planned a methodology that uses the Ethereum blockchain and smart contract effectively operate business exchanges for grain traceability and tracking over the supply chain. Our planed arrangement with the requirement for a trusted authority in the center, given tread record, an intermediator, productivity and profitability are upgrading and safety with high integration, security, and reliability. The proposed plan revolves around the performance of smart understanding to regulation and control all affiliations and trade among all of the individuals required inside the store arrange natural framework. All trades are recorded and set away in the blockchain's unchanging record with connected to a decentralized document framework and in this manner providing to each of the an elevated level of straight for wardens and recognizabelity into the production network environment in a protected, trusted, strong way capable.

Index Terms:--

Blockchain, Ethereum smart contract, traceability, Agricultural supply chain, Food safety

Green Energy Corridor

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Abstract:--
        Presently days with the developing populace and vitality request, we should take an inexhaustible alternative of vitality source, and we should remember that vitality ought not to cause contamination and other characteristic perils. The Government of India in 2013 reported about this program worth Rs. 43,000 Corer to empower the progression of sustainable power source into the National Grid Network and decrease the exhaustible utilization assets. A Green Energy Corridor venture for clearing of sustainable power source from age focuses on the heap focuses by making intra-state and between state transmission frameworks is under execution in inexhaustible asset-rich states for the imaginable inexhaustible influence limit expansion during twelfth Five Year Plan period.

Keywords:-
        Green energy corridor, Green energy sources, wind power, solar power

An Innovative Fault Context Identification Algorithm for High Speed Distance Protection

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Abstract:--

      The main aspects influencing the transmission line protection are fault impedance, Load Angle (LA), Fault Application Angle (FAA), Location of fault (FL) and Fault Type (FT). The conventional DFT algorithm used for the phasor measurement removes only integer harmonics and speed of the algorithm is also not sufficient to meet the critical relaying requirement. In this paper, an adaptive algorithm is presented for fast and accurate estimation of Fault Location and classification based on Modified Fourier Transform (MFT). Simulations have been performed in PSCAD to obtain the fault signatures during various fault scenario. The developed test algorithm is scripted in MATLAB followed by validation during extreme faulty conditions. It has been found that the proposed algorithm effectively filters the harmonics, decomposes the fundamental signal from the complex waveforms and operates precisely within one cycle time required for high speed distance protection.

Keywords-

      Fault location; Impedance reach; Modified Fourier Transform (MFT); Numerical relaying; Transmission Line Protection.

Comparative Thermal Analysis of Pure and Zinc Doped Sodium Hexa-titanate ($Na_2Ti_6O_{13}$)

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Abstract:--
　　The present paper discusses the synthesis and characterization of pure and doped samples of sodium hexa-titanate (NHT) by solid state reaction method. The phase of the synthesized samples has been confirmed by XRD and the particle size was estimated using Debye-Scherrer equation. X-ray diffraction pattern reveals single phase with monoclinic structure for both pure and doped samples. Morphology of the surface and dimensions of the crystals have been analysed using FE-SEM analysis at different magnification. Thermal analysis (DSC/TGA) of these samples have also been done for phase transition study. EDS analysis has been done for elemental analysis of the samples also.

Key Words:--
　　Sodium hexa-titanate, XRD, FE-SEM, DSC, TGA, EDS

Study of Side Coupled Modulation Cavity for High Power Microwave Application

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Abstract:--
In this paper, we have studied the side coupled modulation cavity as an RF interaction structure of the reltron. In this modulation cavity beam wave interaction takes place. Using CST Eigenmode solver a beam absent simulation of the modulation cavity has been carried out. Since the side coupled modulation cavity is made of three re-entrant cavities, the modulation cavity provides three resonant modes i.e. 0 mode, $\pi/2$ mode and π mode. Here, $\pi/2$ mode is the desired mode of the operation and it is obtained at 2.896 GHz at 10mm coupling depth. One of the major advantages of the side coupled modulation activity is that it can be made the frequency tunable. To predict this behavior we have varied the coupling depth of the cavity and obtained the frequency for all the three resonating modes.

Index Terms—
Reltron, electron velocity, modulation cavity, eigenmode simulation.

Cloud Data Integrity Verification with Privacy Preserving and Effective batch verification ID based Public Auditing Protocol

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Dr.Vinay S, Professor, PESCE, Mandya

Abstract:--

With the advance development in the cloud technologies, Cloud Storage service gives the huge storage where we can store the local data remotely with the minimum computing power and limited storage as we delete the locally present data. However, Cloud Service provider (CSP) may cause damage or make unauthorized alterations to the data for benefits. Therefore, it is necessary for the user to check the data integrity periodically. Public auditing method used for the data integrity verification on behalf of the cloud user. ID Based public auditing for cloud data integrity verification methods are proposed. Other existing methods cannot preserve the privacy of the user, as the third party auditor obtains the content of the user data while auditing. In this paper, we propose a new ID Based public auditing method for data integrity verification, privacy preserving and effective batch verification. Furthermore we compare our method with other ID-based auditing methods.

An Agricultural Electric Cart by Application of Internet of Things

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Abstract:--

A prototype smart agricultural electric cart built (Mainly for Horticulture) will reduce the labor strain and improve agricultural productivity using Internet of Things (IOT) and remote connectivity which can be optimized effectively for future generation farming.

All available carts/trolleys were considered and the best cart was selected based on its dimensions, function and outlook. As per needs, the cart designed with necessary modifications and same is fabricated. Study is done on various methods, like "Follow me Cart" technology and the "Ultrasonic Sensor Based Target Following Device for a Mobile Robot". The cart driven by batteries follows the farmer along the track. After reaching the end of track, the cart stops allowing the user to unload the produce. The cart also records real time weight carried by it and transmits the information to the database server. This helps in productivity management and inventory management. Propulsion method along with the turning mechanism was worked out and the same has been implemented by programming the microcontroller. IOT application of "Real-time Data transfer" network has been adopted. The fabricated model was scaled down from a safe load carrying capacity of 80kg to a safe reduced load capacity of 10kg with all the other features and functionalities being the same.

Keywords:

Smart Farming, IOT, Inventory management, Cart, Micro controller

Hybrid Memristive Memory Cell

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Abstract:--
     Digital storage memory technology suffers from quantization noise, which appears as demon in neural computing in terms of trade off between the word length and quantization noise. Analog memory is conceived as the best solution to tackle this problem. The fascinating word of analog memory though gets rid of quantization noise but poses the riddle of in band noise which is a trivial problem that made to move from analog to digital domain. An intermediate solution has been developed over the years that utilize the best of analog and digital domains while offering seamless memory compression. This storage technology transition leads to the evolution of number of different device technologies and architectures over the last decade. Among these memristor based storage cell is an interesting and promising solution. In this paper a Hybrid memristive memory cell with the advantage of MOS technology and memristor features is proposed, investigated and demonstrated. The proposed design has been simulated and tested for number of write and read cycles with N number of programming levels. The design has the advantage of subcell configuration and replicability. Further the design has been analyzed for the power, area, speed and stability of the stored states along with sustained repeatability. Investigation of the simulation results indicates the proposed cell to be promising with enhanced performance in comparison to the other existing designs.

Predominant Learning Using Augmented Reality and Virtual Reality - AR and VR in Education

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Abstract:--
Virtual Reality and Augmented Reality is on the doorstep of education, and without a doubt, it'll change the world as we know it. 21st-century classrooms will be technologically advanced places of learning with VR and AR technology significantly increasing students' engagement and learning. For education, classroom was regarded as one of significant learning environments which teachers help learners to achieve curriculum objectives. This research aimed to develop an e-future classroom (electronic future classroom) which consists of several elements as follows: electronic innovative technology, education instruction, education environment, and evaluation standard. The e-future classroom was different from general classrooms since it was learning resource combined with AR and VR technology. The person learns higher by perceptive and listening than by merely reading. We are going to treat this specific property of the human mind to accelerate learning. Virtual Reality and Augmented Reality is the next logical step in the evolution of the Education System.

Evaluation of Weld Bead Mechanical Properties Using Image Processing during Destructive Testing by Multivision Technique

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Abstract:--
Pulsed Gas metal arc welding (P-GMAW) is widely used fabrication process in industries. By melting constantly fed current-carrying wire P-GMAW achieves coalescence of metals. However, to obtain good quality of weld and productivity, P-GMAW needs consistent, high-quality welding procedures. This need is due to continuous control metal transfer that is necessary in P-GMAW for thin metal work pieces. This paper explores how image processing could be applied in evaluation of mechanical properties in destructive testing of MS ASTM A 106 B grade material weld bead. Image features like height and area of weld bead have been extracted for different loading conditions using image processing by multivision technique. The vision technique plays a significant role in quality inspection and process monitoring in the industries. This technology improves the edge recognition, pixel processing and reliable. The quality and productivity of the weld bead are consistently achieved during fabrication process in the industries. The weld bead images captured during tensile testing on MS ASTM A 106 material are analyzed by considering region of interest. From the study it is found that multivision is capable to quantify the parameters associated with soundness and performance of welded joints and the established trend using image processing features is correlating well with traditional measurement. Considering the results obtained the fabrication process can be used in advanced processing industries.

Keywords:--
P-GMAW, MS ASTM A 106, Multivision, Destructive test.

A Study on Image Restoration with Sharpening and Smoothing

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Abstract:--
     Image restoration is an important task to recover the original image from degraded Image. The degradation may be analyzed through Probability density function (PDF) found for various noise such as Gamma, Gaussian, Salt and pepper etc. This article focuses on Image Restoration with spatial coordinates and frequency parameters. Under this study, this article denotes that restoration techniques are best formulated in the spatial domain than the frequency domain. At the same time this article notifies that spatial coordinates are processed only for additive noise on other side. If degradation like Image blur, Image restoration can takes place in frequency domain. This article also discusses about the various filtering techniques for Image restoration, Image sharpening and smoothing process in terms of Image enhancement in frequency domain. High pass filter and low pass filter are working on the process of sharpening and smoothing respectively.

Low Power Design of 0.8V based 8 Bit Content Addressable Memory using MSML implemented in 22nm Technology for Aeronautical Applications

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Abstract:--

Proposed Paper contains Master slave match line (MSML) architecture which is implemented in traditional Content Addressable Memory (CAM) cell for storing 8 bit of data. Objective of the proposed methodology is to improve searching speed with less power consumption. MSML operation depends on two things one is Master Match Line (MML) and slave match line (SML). Design is performed using SPICE in 22nm technology which is weightless and can be used in Aeronautical Equipment. Various parameters such as temperature, power and delay are calculated for various types of CAM cell. Proposed methodology power consumption is found to be 598mw with delay of 5.98ns for 22nm technology.

Key Words

CAM Architecture, NAND architecture, NOR Architecture, MSML design.

Review on MPPT Techniques for Solar PV array Systems

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Abstract:--
      Harnessing of renewable energy sources play a key role in meeting the required energy demand. Sun is the main source of energy, easily and freely available everywhere. The important task is to effective utilization of solar energy from solar PV cells in the form of electrical energy. MPPT techniques are used derive maximum power from PV cells. In this paper different MPPT algorithms such as Incremental Conductance, Perturb and Observe and Fuzzy Logic methods and their review has been carried out considering the various parameters and various dynamic conditions. Thus this work can help for further research towards MPPT techniques which are employed for PV systems.

Key words:
      Photovoltaic (PV), Maximum Power Point Tracking (MPPT), Incremental Conductance (INC), Perturb & Observe.(P&O), Fuzzy logic Controller(FLC)

Calibration of Partial Discharge Measuring System by A Reference Square Wave

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Dr. B Ramachandra, Professor, Dept. of EEE, PESCE, Mandya,

Abstract:--
    The Paper is about method of calibrating partial discharge measuring device. The measuring system captures the current impulses in the leads of the sample are then transformed into voltage impulses by rejecting any disturbances caused by high voltage source. These pulses are amplified and analysed in digital storage oscilloscope and PC Based analyzer. Before conducting partial discharge test with high voltage source, a pulse of known charge value is fed into the measuring circuit for calibration of the system and the scale factor of the PD measuring system is determined as per the Standard. This calibration assures the "apparent PD Magnitude" is measured correctly. The calibrator need to be calibrated periodically before the actual measurement. This operation is performed by applying a square wave of known amplitude to a series capacitor through matching impedance & amplifier circuit. A labview program is developed to measure the number of PD pulses obtained for different frequencies of input square wave. The results obtained characterize the partial discharge measuring system behavior.

Keywords :
    Partial discharge, calibrator, matching impedance, amplifier

A Study of Various Simulator for an Energy-Neutral Operation of Internet of Things Nodes

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Abstract:--

      The eventual deployment of Internet of Things nodes infrastructure are likely to be equipped with energy harvester to extensively increase the lifetime and autonomy of the nodes. However, network lifetime is one of the captious concern in sensor nodes, as the availability of natural energy source is completely reliant on the geographical locations, especially when the sensors are deployed in remote and isolated areas such as arctic stations, where supplying the required energy is critical. The objective of this paper is to study the various extensive energy simulator using which the energy neutrality for the IoT nodes can be attained and to estimate the energy consumption and lifetime of the Internet of Things nodes.

Index Terms—

      Internet of Things(IoT), Energy Harvester, Energy Simulator

A Survey on Electronic Health Record Maintenance Using Blockchain

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Abstract:--

Healthcare systems is the protection of patients sensitive data against the potential opponents. It is essential to have secure data access mechanisms that can ensure only authorized entities can access the patients medical information. The Electronic Health Records(EHR) posses the patient`s medication details and their health history.Electronic health record can improve quality care by using the data and analytics to prevent hospitalizations among high-risk patients. the health records attract the attention of the attackers as it maintain key information.Now a days,healthcare data can be created,copied and modified faster than ever before.For securing the data to using Blockchain Technology.It would offer healthcare safe and secure system to share data more efficiently.

Organized by:

Uma Nath Singh Institute of Engineering & Technology,
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Relative Analysis of Carry Skip Adder Using 28T, 10T & 8T Full Adders

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Abstract:--
   Ever since its inception, the design of full adders which forms the basic building blocks of all digital VLSI circuits has been undergoing a considerable improvement, being motivated by three basic design goals, viz. minimizing the transistor count, minimizing the power consumption and increasing the speed XOR gates form the fundamental building block of full adders. Enhancing the performance of the XOR gates can significantly improve the performance of the adder. A survey of literature reveals a wide spectrum of different types of XOR gates that have been realized over the years. The early designs of XOR gates were based on either eight transistors or six transistors that are conventionally used in most designs. Over the last decade, considerable emphasis has been laid on the design of fourtransistor XOR gate. The current work presents the design of a full adder using eight transistors. Our work achieves the design of full adder with sum and carries outputs with only two stage delays. The full adder has been designed using three transistor XOR gates using the concept of combining a CMOS inverter and a pass transistor method. we have realized an 8T full adder using rather conventional logic combination of 3T XOR gates

Mamdani's Method In Atomic Clock of Communication Satellite By Using Uncertainity Method

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Abstract:--
    The purpose of the paper is to apply the concept of fuzzy logic to calculate the error in distance on space while satellite is rotating around the earth.Fuzzy logic is a from of many value logic in which the truth value of a variable may be any real number between 0 and 1 both inclusive .Frequency and atomic clock value are taken as parameter to be studied.In this paper a method is developed to determine error in distance and frequency of atomic clock.The method is explained theoretically using some data.Fuzzy logic is a sort of logic that is different in the way that it allows values to be more accurate. Fuzzy logic only allows true or false.Mamdani's method is the most commonly used in applications, due to its simple structure of 'min-max' operations.While the communiation satellite is rotating around the earth due to change in Frequency of atomic clock there is a error in distance.Mamdani's method is used to calculate the error and frequency.Fuzzy logic is conceptually easy to understand. Fuzzy reasoning builds this understanding into the process rather than tacking it onto the end. Fuzzy logic can model nonlinear functions of arbitrary complexity.The term fuzzy refers to things which are not clear or are vague. In the real world many times we encounter a situation when we can't determine whether the state is true or false, their fuzzy logic provides a very valuable flexibility for reasoning.These models have the capability of recognizing, representing, manipulating, interpreting, and utilising data and information that are vague and lack certainty.Using fuzzy logics with the help of mamdani's method to determine the atomic clock frequency and values error can be calculated.

Keywords:
    Satellites, Fuzzy logic, Atomic clock, Frequency

Scene Change Detection in Broadcasted Video

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Abstract:--
    Scene change detection is very important in video applications such as video indexing, semantic features extraction, multimedia information systems, video on demand (VOD), advertisement segregation & processing and digital TV. In this work we propose automatic scene change detection algorithm in broadcasted video. The proposed technique uses both visual audio features. The audio features - signal energy, energy difference and visual features- frame difference, histogram difference, edge change ratio, face similarity are used in this work. Experimental results on broadcast videos demonstrate better results for scene change detection.

A Survey on Arithmetic Logic Unit Using Cadence

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Abstract:--
Arithmetic Logic Unit (ALU) is the most significant unit of any computing system be it microprocessors, embedded structures or any other computational device. ALU is complex circuit and is one of many components within CPU. It performs mathematical and bitwise operations. In this rapidly increase technologies it is essential to design an ALU which is majorly concentrating on speed, transistor and area of circuit under fabrication has become a major and vital constraint in electronic industry. Arithmetic Logic Unit having minimum circuit complexity and achieves the need to full fill the requirements. To analyze and to design Cadence Virtuoso tool is used which helps in simulation and also for layout extraction. Limitation and advantages of the existing arithmetic logic unit will be analyzed.

Bacterial Foraging Optimization Based Maximum Power Point Tracking for Photovoltaic System under Partially Shaded Condition with Interleaved Resonant Fly-back Converter

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Abstract:--
       Due to the non-uniform temperature and irradiance level of PV array, Maximum Power Point Tracking (MPPT) techniques are becoming more common to boost the system efficiency even under varying and unpredictable weather condition. Selection of small value of step size consequence in more convergence for MPPT and large value produces more power oscillations. Therefore, a Bacterial Foraging Optimization (BFO-MPPT) algorithm will be proposed to optimally choose the value of duty cycle that helps to operate the converter at MPP. Moreover, the interleaved converter will helps to attain large output power with less ripples and high efficiency. The results may prove that the BFO-MPPT can achieve less burden during computation and low computational time with global convergence.

Environmental Impact on Children

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Abstract:--
Fresh and cool peaceful environment is basic need for children, irrespective of one's race, religion, nationality, language, sex or any other factor. Indian legislation and the Apex courts protect the good environment for the children by the various laws and guidelines. Environmental rights and environmental impact education is not something like consideration of abstract ideas reflecting certain generous ideas. It is naturally and specifically to be adapted to the important needs of every human being especially for children by providing one with norms, values and criteria to which one can refer to in the course of daily life. This research paper tries to present situations of children due to environmental impact.

Key Words:
Environment, Children, Behaviour, Daily Life, Apex Court

Reliability Analysis of a newly proposed two disjoint path multistage interconnection networks

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Abstract:--

For parallel computation, various multistage interconnection networks have been discussed in the literature. But these networks always required further improvement in reliability and fault-tolerance. Fault-tolerance of the network can be achieved by increasing the number of disjoint paths as a result reliability of the interconnection networks also improved. In this paper, two new design of two disjoint paths fault tolerance MINs (2DP-FTMIN-1 and 2DP-FTMIN-2) are discussed. These new designs are inspired by the combination of banyan network, Gamma interconnection network and shuffle exchange network. Here reliability, cost and fault-tolerance of these two proposed layouts of MINs are calculated and these designs are compared with other existing MINs of this category.

Key Words:

Fault-tolerance (FT), disjoint paths (DP), multistage interconnection networks (MINs), shuffle exchange network (SEN), gamma interconnection network(GIN), reliability block diagram technique, terminal reliability(TR).