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ICIESMT-19

International Conference on Innovation in Engineering Sciences, Management and Technology

Nagpur, India

12th - 13th December, 2019

Organized by:

S.B. Jain Institute of Technology, Management & Research (SBJITMR)

&

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 ***S.B. Jain Institute of Technology, Management & Research (SBJITMR),*** Nagpur, India. I am delighted to welcome all the delegates and participants around the globe to ***S.B. Jain Institute of Technology, Management & Research, Nagpur, India*** for the ***"International Conference on Innovation in Engineering Sciences, Management and Technology (ICIESMT -19)"*** Which will take place from ***12th - 13th December'19***

Transforming the importance of Engineering, the Theme of this Conference is ***"Exploring The Future"***

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 & SBJITMR)** 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 ***Nagpur, India***

Sincerely,

Rudra Bhanu Satpathy

Preface

The **"*International Conference on Innovation in Engineering Sciences, Management and Technology - ICIESMT- 19"*** is being organized by ***S.B. Jain Institute of Technology, Management & Research,*** Nagpur, India in Association with ***IFERP-Institute for Engineering Research and Publications*** *on the 12th – 13th December, 2019.*

S.B. Jain Institute of Technology, Management & Research has a sprawling student – friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the major city of Nagpur in Maharashtra.

The **"*International Conference on Innovation in Engineering Sciences, Management and Technology"*** 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 **"Engineering Sciences, Management and Technology"** which were given International values by ***Institute for Engineering Research and Publication (IFERP).***

The International Conference attracted over 300 submissions. Through rigorous peer reviews 100 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.

ICIESMT -19

Message from the Hon'ble Secretary

Mr. ANUJ S. BADJATE

Secretary

Shri Shantilal Badjate Charitable Trust, Nagpur

Globalization demands all round development and this development is impossible without knowledge and research of technological developments in varied fields. S.B. Jain Institute of Technology, Management & Research was started in 2008 under the umbrella of Sir Shantilal Badjate Charitable Trust with an idea of providing skilled manpower to match the ever-changing industrial demand and expectations. To keep pace with the rapidly changing industrial requirement, we at S.B. Jain Institute of Technology, Management & Research have been consistently promoting skill enhancement beyond the realms of university syllabus. Research, in this regard, forms an important tool of improving the dexterity of learners from diverse fields.

To provide a platform for the generation of new ideas, development of knowledge and promotion of research, SBJITMR is organizing its 1st International Conference on Innovation in Engineering Sciences, Management and Technology.

I would like to congratulate all the members of team SBJITMR who have worked towards the organization of this conference and hope that the conference will lead to a highly enriching experience for all the participants.

Message from the CEO

Mr. SANJEEV H. AGRAWAL

CEO

Shri Shantilal Badjate Charitable Trust, Nagpur

S.B. Jain Institute of Technology, Management & Research (SBJITMR) has always emphasized on overall development of its students and faculty members alike. This has resulted in making S.B. Jain Institute of Technology, Management & Research one of the fastest growing Engineering college of Central India. One of the youngest institutes to get NAAC "A" grade, SB Jain has always tried to set newer standards for itself in the field of academics.

We at S.B. Jain Institute of Technology, Management & Research, recognize research as a primary and important tool of technical learning. It cannot be denied that imparting engineering knowledge is incomplete without inculcating the basics of research. With this in view, SBJITMR is organizing the 1st International Conference on Innovation in Engineering Sciences, Management and Technology. The conference aims at providing a leading forum for sharing original research contributions and practical developments in the field of Engineering and Management so as to contribute its share towards technological advancements.

I welcome you all at S.B. Jain Institute of Technology, Management & Research Institute for this conference and wish you happy learning!!!

Message from the Principal

Dr. SANJAY L. BADJATE

Principal

SBJITMR, Nagpur

The 1st International Conference on Innovation in Engineering Sciences, Management and Technology aims to bring together leading academicians, researchers, research scholars and industrialists to exchange and share their experiences and research results on aspects of Science, Engineering and Management. It also aims to provide a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends and concerns as well as the practical challenges encountered and the solutions adopted thereof. This conference will provide opportunities for the delegates to exchange new ideas and their experiences to establish research relations for future collaborations.

On behalf of S.B. Jain Institute of Technology, Management & Research, I welcome you all for this conference and hope to promote exchange of ideas, knowledge and research.

Message from the Conference General Chair

Dr. PANKAJ THOTE

Dean Academics and Head of the Dept. Electrical Engg.

SBJITMR, Nagpur

Welcome to International Conference on Innovation in Engineering Sciences, Management and Technology (ICIESMT 2019), Nagpur, India. The 1st International Conference on Innovation in Engineering Sciences, Management and Technology is organized by S.B. Jain Institute of Technology, Management & Research (SBJITMR), Nagpur and Institute for Engineering Research and Publication (IFERP), India.

The conference is held at S.B. Jain Institute of Technology, Management & Research (SBJITMR), Nagpur during 12th - 13th December 2019. The theme of this conference is "Exploring the Future". The purpose of this conference is to provide an opportunity to research scholars, delegates and students to interact and share their experience and knowledge in technology application.

We maintain high standards and originality through a double-blind peer review process, which includes verification against plagiarism. In addition, the conference provides visionary keynotes and plenary speeches by distinguished experts. This year, we have International keynote speaker Professor & Dean Kamarul Hawari bin Ghazali, Faculty of Electrical and Electronic Engineering, University Malaysia Pahang and as Indian keynote speaker Professor Dipankar Pal, Department of EEE, BITS-Pilani Goa Campus. I am sure, the students, engineers and researchers from various places will get benefitted from this conference deliberation.

I would like to give my best wishes to the organizers and participants of this conference and hope that their efforts bring success

Message from the Program Chair

Dr. SWAPNILI KARMORE

R&D In charge, Associate Professor Dept. of Computer Science & Engg

SBJITMR, Nagpur

On behalf of the organizing committee, it is my pleasure to welcome you all for International Conference on Innovation in Engineering Sciences, Management and Technology - (ICIESMT 2019) in Collaboration with Institute for Engineering Research and Publication (IFERP). ICIESMT 2019 is a platform which is going to provide an opportunity to research scholars, delegates and students to interact and share their experience and knowledge in technology application.

I warmly welcome all research scholars, scientists, academicians, young researchers, business delegates and students to exchange their views and share experiences with other high level professors, colleagues and friends, representing many well-known Universities and Research Institutes together with members of relevant international organizations.

Since this conference covers very global aspects on Recent Challenges in Engineering Technology from very fundamental issue to practical application, anyone interested in dealing with challenges in Engineering and technology for maintaining the Earth as a livable planet should not miss.

Our Conference could not exist without the generous and unrestricted support from the researcher, academia, and industry experts as well as all our partners and sponsors. We thank them immensely and encourage all to interact with them throughout the Conference.

Most of all, I thank you, the participants, for enriching the annual conference by your presence. In ICIESMT 2019 conference – I hope you will enjoy the Inaugural Function, Involve in the technical sessions, Gather new ideas and develop your skills, and above all, have a good time.

We hope that you will find ICIESMT-19 both enjoyable and valuable, and also enjoy the architectural, cultural and natural beauty of our own Orange City, Nagpur.

The Organizing Committee looks forward to seeing you around.

ICIESMT-19

International Conference on Innovation in Engineering Sciences, Management and Technology

Keynote Speakers

Message from the Keynote Speaker

KAMARUL HAWARI BIN GHAZALI

Professor & Dean, Faculty of Electrical and Electronic Engineering

Universiti Malaysia Pahang

I would like to thank to the organizing committee of IFERP inviting me as a keynote speaker with the latest emerging topic on deep learning algorithm. I am believe this conference will give a lot of benefit to the participants in discussing on latest finding in engineering sciences, management and technology.

I am particularly happy to be present in this conference and to exchange views and share experiences with participants, colleagues and friends, representing my Universities and Research group together with members of relevant international participants.

I would like to welcome you to this conference and look forward to your participation

Message from the Keynote Speaker

Prof. (Dr.) DIPANKAR PAL

Professor, Dept. of Electrical & Electronics Engineering,

BITS Pilani, K. K. Birla Goa Campus, India

The epochs that have built civilization ever since the stone-age days are made of inventions. Fire and wheel have made life safe and sustainable, agriculture gave food and dress material, civil engineering gave us shelter, currency notes brought in basics of exchange of goods and services for wealth to grow, chemistry and medicine gave health and longevity, and electricity, electronics, computers and communication redefined the way of life through ages. An academic, professional or industrialist therefore has no other option except to invest and emphasize on invention just to remain relevant, let alone grow.

Invention has also led to destruction – weapons for instance have been misused. But these are acts of irresponsibility of men who lack in values.

IFERP is organizing the International Conference on Innovation in Engineering Sciences, Management & Technology-2019 (ICIESMT-19) in S. B. Jain Institute of Technology Management & Research, Nagpur, India. I am happy to note that a very relevant subject has been taken up by them to do brain storming over two days.

I expect many new ideas would evolve that would make life simple, safe and comfortable without damaging Mother Nature and the environment.

I wish it every success.

ICIESMT-19

International Conference on Innovation in Engineering Sciences, Management and Technology

Nagpur, India, 12th - 13th December, 2019

Organizing Committee

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ICIESMT-19

International Conference on Innovation in Engineering Sciences, Management and Technology

Nagpur, India

12th - 13th December, 2019

ABSTRACTS

ICIESMT-19

Organized by:

S.B. Jain Institute of Technology, Management & Research (SBJITMR)

and

Institute For Engineering Research and Publication (IFERP)

Influence of Social Media Marketing on School Branding

Dr Dileep Kumar Singh, Department of Management- DMIETR
Dr Shailesh O. Kediya, Associate Professor & HOD-MBA, Datta Meghe Institute of Engineering,Technology & Research,Wardha

Abstract:--

Social media is an undoubtedly most promising medium to explore key consumer influencers, engaging them, and generating brand advocates. However, in order to build viral campaigns and foster online Word of mouth, trust must be established and afterwards strengthened in order to overcome any disinclination in near future from prospects. Marketing is a discipline which is based on experiments, information and observation and thus it brings modifications as per changing local and global environment. Since business environment is very dynamic and has seen paradigm shifts in last two decades, it also allows appropriate transformation to keep pace with such dynamism. The online marketing and electronic equipments have brought drastic changes in the way marketing strategies are executed however the absolute aim remains same i.e. expansion of business, market share and moving towards becoming market leader.

Keywords:--

School branding, Social Media, Parent, Admission

Combined K-Hierarchy clustering to know the buying pattern of customer and provide them with freebies by online site for future shopping

Priyanka Desai, Trainer: LINC Education, FYI
Bhavna Arora, Assistant professor, Atharva college of engineering, Mumbai

Abstract:--

The focus is on buying pattern of the customer based on the discount and its related quantity. Data is available in unsupervised form as the online data being received is not linear. The data has to be put in different chunks, it is not possible as the data has to be analysed, hence this is the gap. The solution is to form clusters first so as to segregate the data that is being received for which the following questions need to be answered What is the kind of data being received? Is the buying pattern related to the discount being offered for a particular quantity or viz. The cluster are formed using K-means cluster and Hierarchical cluster, this is then compared with proposed algorithm explained in the paper.

Keyterms:--

Unsupervised form, K-means Clustering, Hierarchical Clustering, Combined K hierarchy

Mandatory Corporate Social Responsibility (CSR) Activities in India

Dr. Rashmi S. Gupta, Assistant Professor, Dr. Ambedkar Institute of Management Studies and Research
Hemant A. Deshmukh, Assistant Professor, Dr. Ambedkar Institute of Management Studies and Research

Abstract:--

In any welfare state, it is the responsibility of the government to ensure that the economic growth and development is sustainable and its benefits reach to those sections of the population which are needy and deprived in one way or the other. However, availability of limited resources often hampers the government from achieving these objectives. In a country like India which has a population of more than 1.2 billion people, it becomes practically impossible for the government alone to ensure societal welfare and environmental conservation. Therefore, businesses being intergral components of the society have a responsibility to assist the government in achieving the objectives of societal welfare and environmental conservation. Corporate Social Responsibility (CSR) has been in existence in India for a long time. However, in order to formalise the concept Government of India enacted a law, making it mandatory for big profit making corporates to contribute a minimum of two percent of their profit towards CSR activities. The law has been enforced since 2014. India became the only country in the world to have enacted this legislation and made CSR mandatory. This paper attempts to comprehensively review the CSR scenario in India in past four years. The data for this study has been collected from secondary sources such as the CSR portal of the government and various survey reports of private agencies such as KPMG. The study checks the levels of compliance to the law in terms of target and actual spending, areas of spending, their alignment with the Sustainable Development Goals (SDGs) and the georaphical spread of spending within the country. The study brings forth certain important revelations which will help the government to refine the law further in order to achieve the desired objectives.

Keywords –

CSR, Sustainable Development Goals (SDGs), Companies Act 2013.

Twitter Sentiment Analysis

Vedant Khairnar, Ramdeobaba college of Engineering, Nagpur
C M Khairnar, Ramdeobaba college of Engineering, Nagpur

Abstract:--

Analyzing peoples sentiments is having lot of applications in bisiness marketing, politics and public actions. The purpose of the present work is to get in people's insight from their profiles in contrast to traditional ways of obtaining information about perceptions.The objective of this task is to detect hate speech in tweets. The methodology used in present paper is Logistic Regression . The initial stages are , understand the Problem Statement , Tweets Preprocessing and Cleaning , Removing Twitter Handles , Removing Punctuations, Numbers, and Special Characters , Removing Short Words , Tokenization and Stemming. Using the Python programming we have shown the results for current topics.

Index Terms—

Twitter sentiment analysis, Social Network analysis.

Mandatory Corporate Social Responsibility: Impact on Rural Development Sector of Maharashtra

Prof. Hemant A. Deshmukh, Assistant Professor, Dr. Ambedkar Institute of Management Studies and Research
Dr. Rashmi S. Gupta, Assistant Professor, Dr. Ambedkar Institute of Management Studies and Research

Abstract:--
More than 60% of India's population lives in rural areas. This population is deprived of many basic facilities such as infrastructure, communication, healthcare, employment opportunities, modern farming techniques, sustainable lifestyle, etc. Government of India implements various schemes for rural development. However, it becomes difficult for the government to implement schemes effectively due to lack of resources. Corporate India, being an important part of the society is expected to contribute in rural development through CSR activities. In 2014 CSR was made mandatory for large profit making organisations. One of the key areas of CSR activities was rural development. Since 2014 Maharashtra has been the highest beneficiary of the CSR spending. This paper attempts to study the impact of CSR activities in rural Maharashtra. A district wise study on CSR spending has been done keeping in mind the Human Development Index (HDI) of each district as well their component of the rural population. It is concluded that the CSR spending policies need to be refined in order to implement effective rural development.

Index Title –
Corporate Social Responsibility, Rural Development, Human Development Index.

Application of Field Programmable Gate Array (FPGA) for Data Acquisition System

Yaseer Phyrose, Department of Mechanical Engineering, Yeshwantrao Chavan College of Engineering, India
Dr. Devendra Deshmukh, Department of Mechanical Engineering, Indian Institute of Technology, Indore
Dr. Prashant D. Kamble, Department of Mechanical Engineering, Yeshwantrao Chavan College of Engineering, India
Prof. Rajesh G. Bodkhe, Department of Mechanical Engineering, Yeshwantrao Chavan College of Engineering, India

Abstract:--
The aim of this study is to acquire a data acquisition system for the measurement of electrical and physical parameters. These parameters may be voltage, current, temperature, pressure or sound. For the aim of higher operating speed, FPGA is the most suitable platform. The serial communication protocol used in this system is UART (Universal Asynchronous Receiver/Transmitter). The behavior and functionality of UART is then studied. This is followed by the selection of appropriate board for the application. A basic Xillinx board, Basys 3 is chosen for this purpose. Three different stages are decided viz. focused on the memory element, UART and XADC (Xilinx Analog to digital converter). After the experimentation, it is concluded that the complex part lied within the XADC. On partially overcoming this complexity, a baud rate of 9600 is achieved. Finally, the cost estimation is done. The cost of the system is comparatively less than other available systems in market. This developed system is now capable of handling data at a higher rate.

Keywords:
Data Acquisition, FPGA, Communication Protocol, XADC.

Optimization Methods and its Application in Nutritional Diet

Leena K Gautam, Department of Information Technology, Sipna C.O.E.T,Amravati
Dr.Vijay S.Gulhane, Department of Information Technology, Sipna C.O.E.T,Amravati

Abstract:--
To maintain health, increase life expectancy and to decrease the frequency of cardiovascular diseases one has to improve its dietary habits. Proper diet from the very early stages of life helps in proper growth, development and it also reduces the risk of diseases. Construction of diet plan in hospitals, schools, nursing homes etc.is very important as it helps to plan well administrated menus that can be adapted to user's need, satisfies given constraints and resources and also maintains bodily fitness. From simple and efficient linear programming optimization to various Artificial intelligence based heuristics and metaheuristics optimization algorithm are used for construction of proper diet satisfying certain objectives and performing transformation with lesser inconsistencies. The present review paper summarizes some of the popular mathematical based optimization algorithm which not only educate the user but also helps to plan optimized menus which can be transformed according to the user's need and requirements.

Index Terms—
Optimization, Linear programming, Heuristic search, Genetic programming, Particle Swarm, Differential Evolutionary Algorithm.

Cloud Computing: Challenges and Security Issues

Samruddhi Khedikar, Student, B.Tech, School of Computing Science and Engineering, VIT Bhopal, Sehore,M.P.,India
Shreyasi, Teaching Fellow, School of Computing Science and Engineering, VIT Bhopal,Sehore, M.P., India
Sneha Bhattacharjee, Student,B.Tech, School of Electronics and Electrical Engineering, VIT Bhopal, Sehore,M.P.,India

Abstract:--

Cloud computing laid the conceptual and infrastructural foundation for tomorrow's computing that is being widely used around the world. Earlier in order to host a website, create an application or store large data consuming resources we had to buy a stack of servers. These servers were verycostly as well as needed monitoring and maintenance.Cloud computinguses virtual resources for sharing data. Forinstance, companies like AmazonandGoogleprovide storage and computing resources over the internet where we can store, manage and process our data. It is a time saving and cost efficient system which takes care of bandwidth and alsoprovides data movement, transactions and storage information. There are various data centers of a cloud provider like Microsoft, Google, Amazon, VMware etc.This paper presents a comprehensive review on cloud computing and its security issues in reference to cloud infrastructure.

Keywords –

Cloud computing, cloud service, cloud security, computer network, multi-tenancy, security component.

Overview of Wireless Sensor Network and Security

Pandit T. Nagrale, Rajiv Gandhi College of Engineering and Technology, Nagpur
Rajesh Nasare, Asstt.Professor, Rajiv Gandhi College of Engineering and Technology, Nagpur
Kalyani Pendke, Asstt.Professor, Rajiv Gandhi College of Engineering and Technology, Nagpur

Abstract:--

Wireless Sensor Network (WSN) is an group of spatially dispersed and dedicated sensor for monitoring and recording the physical conditions of the environment and organizing the collected data at the central location. Data gathering is a common but critical operation in many applications of wireless sensor networks. Innovative techniques that improve energy efficiency to prolong the network lifetime are highly required. The WSN is an emerging technology that shows great promise for various futuristic applications both for mass public and military. The sensing technology combined with processing power and wireless communication makes it lucrative for being exploited in abundance in future. The inclusion of wireless communication technology also incurs various types of security threats. The intent of this paper is to overview of wireless sensor network given that introduction, topology, architecture, challenges, advantages and disadvantages and also discuss the security related issues and challenges in wireless sensor networks. "A wireless sensor network (WSN) is a wireless network consisting of spatially distributed autonomous devices using sensors to cooperatively monitor physical or environmental conditions, such as temperature, sound, vibration, pressure, motion or pollutants, at different locations. WSN is a collection of sensing devices that can communicate wirelessly." review proposed entire wireless sensor is use full to collect data in remote places and from that data we can try to manage handle the situation on the analysis of collected data. We have also discuss the many things security mechanisms for wireless sensor networks. We also discuss the holistic view of security for ensuring layered and robust security in wireless sensor networks.

Optimized Localization of Wireless Sensor Nodes with RSSI in Wireless Sensor Networks

Venkata Reddy Adama, Research Scholar, PIET, E&C Engineering, Nagpur, India and Associate Professor, VCE, E&C Engineering, Karimnagar, Telangana, India

Ranjit V Bobate, Research Scholar, PIET, E&C Engineering, Nagpur, India

Dr G.M. Asutkar, Professor & Vice-Principal, PIET, E&C Engineering, Nagpur, India

Abstract:--

In WSNs localization is an important issue for many applications as it increases the lifetime of the nodes, power consumption calculations, data routing etc., we optimized the localization of Wireless Sensor Nodes at a given network area where we used some known location Anchor nodes for better results. By considering the anchor nodes as reference nodes at given area, the localization of unknown sensor Nodes Location be able to be estimated, to approximate the sensor nodes triangulation method was adopted. In this paper Delaunay Triangulation (DT) method was implemented for exact estimation of unknown nodes in the network area. DT method proves better localization algorithm compared with other methods. Anchor nodes measures the RSSI of nearest neighbour nodes, based on RSSI values DT method approximates the nearest neighbour nodes and DT triangles are formed.

Keywords:

RSSI, Delaunay Triangulation, Wireless Sensor Nodes.

Performance Metrics Analysis of Routing Algorithms for IoT Based Applications

Anjum Sheikh, Research Scholar, Kalinga University, Raipur
Asha Ambhaikar, Kalinga University, Raipur.

Abstract:--

Routing is an essential service in the IoT, since it enables the exchange of information between Things, by efficiently directing and reliably delivering data on the network from their sources to their destinations. However, routing in the IoT is also challenging, due to the global scale of the IoT, the massive number of Things in the IoT, the dynamic topology of the IoT, and the resource constraints of the IoT devices. The various applications of IoT are expected to equip more and more of everyday objects with connectivity and intelligence. It is already being deployed extensively, in various domains, namely: wearables, smart home, smart cities, smart agriculture, smart transportation and industrial application. This paper tries to study and analyze basic routing methods along with their characteristic which have been implemented in the last few years for better functioning of the IoT applications.

Index Terms-

End to end delay, Energy efficiency, IoT, Packet Delivery Ratio, Routing, Throughput

Aloe Vera: An Innovative CSR Model for Sustainable Rural Development.

Dr.Aniruddha Bodhankar, Associate Professor, Dr.Ambedkar Institute of Management Studies & Research, Nagpur.

Abstract:--

Aloevera is a herb which was neglected till recent times has started gaining popularity in the last decade only. Aloevera herbs are known for its medicinal properties such as skin moisturizer, skin glowing, wrinkles remover and a powerful anti oxidant if taken orally.

As per the amendments in Sec.135 of Indian Companies act - 2013 the profit making companies have to spend at least 2% of their net profit under CSR activity. Companies usually spend this fund through some NGOs in the deprived areas of their own choice for the uplifting the living standard of deprived families.

The author wants to propose an idea of CSR activity through educating or motivating the villagers for cultivating the aloevera plant.

This paper is an outcome of author's close association with few NGOs working in rural developmental areas. This is an empirical paper purely based on secondary published data. This paper tries to examine the possibility of whether aloevera cultivation can form a sustainable CSR activity by the companies. And eventually can become a contract farming activity if the CSR funding is from FMCG or Pharmaceutical Manufacturers.

Key words :

Aloe Vera, CSR Activity, Aloevera Value Chain, Sustainability, Contract Farming

Radix-4 Feed Back Design using Four Parallel adders with efficient Reordering modulefor Fast Fourier Transform

Prasanna Kumar Godi, M.Tech Communication Systems, Dept. of Electronics, R.V College of Engineering, Bangalore, India
Krishna T Battula, Associate Professor, Dept. of Electronics, R.V College of Engineering, Bangalore, India
Pushpa Kotipalli, Shri Vishnu Engineering College for women, Bhimavarm,India

Abstract:--

A new delay and feedback design for Fast Fourier Transform design with efficient reordering modules for outputs is proposed in this paper, it is designed based on radix-4 fourparallel complex adders. The proposed design has eight parallel adders for computing four outputs simultaneously, multiplier unit for twiddle factor multiplication and memory unit to store the running data. The proposed design has novel data flow, proper reordering of outputs at each stage is achieved by using Parallel in Parallel Out(PIPO) buffers. This is the simple radix-4 architecture using one four parallel processing unit. The flow of data is controlled by control unit. The comparison of proposed method with previous standard methods shows that the proposed method generates FFT by using reduced storage, limited complex adder and multipliers.

Key words:

Delay, Feedback, FFT, twiddle factor, Four Parallel, PIPO

Comprehensive Survey on Camera Calibration for Autonomous Vehicle

Sheetal M. Parate, Student, VIT Bhopal
Shirish K. Shandilya, Professor, VIT Bhopal

Abstract:--

With the progression of autonomous vehicle, LIDAR are in use for detection of surrounding obstacles. The survey has been done to identify the low cost solution for autonomous vehicle by replacing LIDAR. From the overall survey it was observed that the calibration of cameras with different sensor is done from many years and using that we can detect the position and shape of an object. Autonomous vehicles are generally uses LIDAR in order to detect the depth of an object around it. The study on calibration of different sensors has been done from many years for detection of an object in real world. In this paper we survey on different sensor's calibration techniques such as camera calibration, camera to camera calibration, camera to LIDAR calibration, LIDAR to LIDAR calibration in order to provide low cost solution for autonomous vehicle.

Keywords— Camera, Calibration, LIDAR, Autonomous Vehicle

Survey on Pneumonia detection using X-Rays

Anushka Jain, Student, Department of Information Technology, S.B. Jain Institute of Technology, Management and Research, Nagpur.
Ketki Khante, Assitant Professor, Department of Information Technology, S.B. Jain Institute of Technology, Management and Research, Nagpur.
Shivani Jaiswal, Student, Department of Information Technology, S.B. Jain Institute of Technology, Management and Research, Nagpur.
Pinak Umate, Student, Department of Information Technology, S.B. Jain Institute of Technology, Management and Research, Nagpur.
Himani Jichkar, Student, Department of Information Technology, S.B. Jain Institute of Technology, Management and Research, Nagpur.

Abstract:--

Pneumonia detection system is an application which provides a platform for users to detect whether the pneumonia is positive or negative. The main purpose of our project is its automation. It reduces the human efforts in detecting pneumonia. It is feasible for both doctor as well as for normal people also. User just have to upload the photo of x-ray and our application will detect pneumonia. User can see the report generated by this application and can forward it to doctor for confirmation. The record of the user are stored properly in the database.

Keywords:

Cross Platform application, Pneumonia detection system, consultation service, Report generation.

A Study on Impact made on Microfinance on Economic Development of Women Population in Punjab

Dr. Priyank Mishra, Commerce Department, Dr.C.V.Raman University, Bilaspur
Ravijot Kaur, Commerce Department, Dr.C.V.Raman University, Bilaspur

Abstract:--

Women constitutes approximately half of the world's population, who perform nearly about two-thirds of the work hours but still receive only one-tenth of income and one-hundredth of the world's property. Gender discrimination is distinct and common in all developing countries. Despite several attempts by the government after independence, Indian women are still at a disadvantage concerning survival, health, nutrition, literacy, and productivity. Women play a very pivotal part in the development of the Indian economy, which is also constituting one-third of the national labor force and it is also forming and is acting as the most important contributor to the actual survival of the family. The present research studies on whether microfinance loan dispensed through Self Help Group Bank Linkage in Amritsar city has helped the beneficiaries in raising their level of empowerment is a problem that merits detailed study. The present study has been undertaken essentially to analyze its impact. It is found from the research that the economic empowerment for the women in the Amritsar district has considerably improved after joining SHG.

Keywords:

Self Help Group, Micro Finance, Economic Empowerment, etc.

Losing Glow of FMCG Brands

Dr.Aniruddha Bodhankar, Associate Professor,Dr.Ambedkar Institute of Management Studies & Research, Nagpur.

Abstract:--

It has seen that FMCG consumers are becoming indifferent towards the essential categories of the brands. Such brands have become undifferentiated in their minds. The concept of brands is getting redundant in their minds for products from essential categories like Soaps, Tooth Paste, Detergents, Confectionary, Salty Snack Food, Chocolates etc. This can prove to be a big sustainability challenge for the brand members from essential categories of FMCG brands. The researcher empirically observed during his visits to various retail outlets both from urban & rural areas during his observational research that the FMCG consumers are getting confused about purchasing a specific brand of routine FMCG product. They buy either any brand considering that all brands are same or buy a product due to the available offers. The higher the offer is the more would be the temptation of buyers toward them. If not then the buyers try to go for still available economical option or at last will go for smaller pack size. If nothing is available then only they will buy top branded FMCG product. This research tries to ascertain this fact and tries to measure the shift (if at all is there) in quantitative terms.

Keywords—

Brand Redundancy, Essential Brands, Mass Brands, Undifferentiated Brands

Dark energy anisotropic cosmological models" with time dependent Bulk viscosity, G and Λ

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Abstract:--

Assuming the existence of generalized Chaplygin gas with equation of state $p = \frac{-\beta}{\rho^{\alpha}}$ with $0 \le \alpha \le 1$, we obtained Bianchi type III cosmological model with variable bulk viscosity and time varying gravitational and cosmological constants. For homogeneous and anisotropic Bianchi type III cosmological model exact solutions of Einstein equations have been obtained. In this paper with the help of various graphs physical and dynamical behaviors of the model have been discussed.

Key-words:

Anisotropic Bianchi type III, Gravitational Constant, Cosmological Constant, Bulk viscosity, Generalized Chaplygin Gas.

Implementation of MapReduce using Machine Learning

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Abstract:--

Cloud computing provides a distributed environment where data are stored in separated disks and processed in multiple servers in parallel. To witness a quick increase in the variety of data processed there is a rapid growth of applications such as social network analysis, semantic web analysis, and bioinformatics network analysis. Analysis of large-scale data and effective management are interesting but it's a critical challenge. In recent days the big data gets a lot of attention from academia, industry as well as the government. This paper introduces several big data processing techniques from the aspect of system and application. From the view of cloud data management and big data processing mechanisms, this paper presents the key issues of big data processing, including cloud computing platform, cloud architecture, cloud database, and data storage scheme. The MapReduce parallel processing framework introduces Map Reduce optimization strategies and applications that are in the literature. This paper tells about issues and challenges and explores research on big data processing in cloud computing environments.

Keywords
Cloud Computing; Data Management; Distributed Computing; MapReduce; Machine Learning

Indoor Navigation System using Augmented Reality (AR)

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Abstract:--

Location based services is an important aspect of living, as these not only provide time benefits but also saves a lot of energy. The major issue we face to provide such luxury is the cost to implement it. Sometimes it is crucial for an individual to know the correct path to its destination because everyone require a comrade that can guide you to your destination. There are various ways to achieve this luxury of indoor navigation but here we will focus on one of the cheapest and easiest way to find the path in an indoor environment that we have implemented. This paper will throw some light on the uncharted way to achieve the luxury of indoor navigation using Augmented Reality.

Index Terms:

Location based services, Cost to Implement, Indoor Navigation, Augmented Reality.

Demographic Segmentation's impact on Consumer Perceptions towards Digital Payments System Post Demonetization

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Abstract:--

Digital India has gained importance as the government is promoting cashless payments. During the phase of demonetization there was turmoil in the Indian economy. Cash transaction become limited as new currency notes were introduced and the old ones were scrapped. The option left with the general public was going for digital payments. This paper is and attempts to analyse the consumer perception as to how the demographic parameters have an effect on the various attributes when it comes to digital payment system. There were prevalent digital system payment and how did it cater to the public. Primary data was collected form 182 respondents from Nagpur city and nearby areas of Nagpur city. Hypothesis was framed and these hypotheses were tested using ANOVA and to test the data reliability Cronbach's Alpha was used. Using ANOVA for testing it became very clear that there is asubstantialvariance seen with respect to the demographic factors except in case of gender no substantial variance is seen by the respondents towards digital payment system.

Keywords:

Demonetization, cashless economy, demographics segmentation, digital payment systems, consumer perceptions.

Pilot Study of Machine Learning In Iot Security and Challenges

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Abstract:--

Internet of Things is a combination of various devices that connect to each other and it uses the various types of sensors over the wireless and wired media. Since the last two decades the development in IOT has been increasing rapidly over the million of IOT devices has been interconnected together. During the development of IOT technology, security challenges has been distinguished as probably come up in IoT. In additional the expanded volume of data, the IoT makes a huge amount of data by its to speed similar to time and region, with the combination of different things and class in data has been changed. The handling and examination of this huge amount of information are the way to creating IoT applications.

Keyword:

IOT, Network Security, Sensors, Machine Learning

Survey paper on Data Sharing & Exploring Using Augmented Reality (A.R.)

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Uddesh Makde, Students, Department of Information Technology, S.B. Jain Institute of Technology, Management and Research, Nagpur

Abstract:--

This survey paper is on data sharing and data exploring using AR.. We have done a literature survey of four papers. This paper consist of the workflow and the module description of the application as well as the literature survey of all the papers that we have referred. Data sharing and exploring application can be developed using the process of AR. The focus is mainly to designa application to save documentation papers in offices, and other sectors. Mainly, this application can be used in government sectors which uses large number of documentation paper for multiple scheme related choices.

Keywords:

Cross Platform application, Data Sharing system, Paper save service, Report generation,AR.

Experimental Analysis of Finite field over Prime Field and Binary Field

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Abstract:--

As new-fangled attacks come up, protocols desires to be verified all over again and also require cultivating some new arise protocols that can resist the different kind of attacks. A secure system is dependent on the use of cryptographic techniques. Potential use of finite field for the implementation of elliptic curve cryptography which is supporting to implement and design the different key establishment protocol such as key agreement,key exchange protocol that are vulnerable to various kind of attacks (active and passive attack).Finite field accomplishment improves the confidentiality and efficacy of communication network .Finite field arithmetic is used to provide efficient and secure elements for cryptography for key establishment and key exchange . The major emphasis of this paper is on appropriate implementation finite field operation over prime field(Fp) and binary field($F2^m$).

Index Terms—

Elliptic curve cryptography, finite field, binary field prime field ,scalar multiplication, point addition, point multiplication

Environment Governance through Green Banking By Selected Commercial Banks in Karnataka

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Prof. Vijay Kumar, HOD, Department of Commerce, Kristu Jayanti College, Bangalore, Karnataka

Abstract:--

The problem of maintaining the ecological life balance and sustainability of environment is a major issue throughout the world. For the survival of human beings protecting the environment is a very important element. Consumers as well as organizations noticed this importance; being part of it banking sector has taken few news steps towards the concept of green banking which plays a very good role in the environment sustainability as well as growth of a country. Green banking is an ne emerging concept which deals with the banking without using paper, it reduces the usage of paper and power. The aim of the paper is to trace out the role of banks in environment sustainability through green banking by commercial banks in Karnataka. SWOC tool has used in research therefore; possible suggestions can be made to take initiatives and promote green banking in Karnataka.

Keywords:--

Green banking, Green Banking Karnataka, Environment Sustainability, commercial banks,

A Study on Effectiveness of Basel Iii Norms on Indian Banking Industry

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Abstract:--

The BCBS implemented Basel III norms on December 2010 with the sake of protecting the banking companies from the financial and economic crisis and to intensify the banks supervision,regulationand ability to manage the risk.2007-08 global financial crisis which adversely affected the banking sector, led to the advent of Basel III norms to safeguard the banks against the recurrence of such crisis. As per the RBI guidelines India decided to operationalize the Basel III norms from 31stMarch, 2015 in differentstages and expected to implement entirely by 31stMarch2018. But that was a challenging task for Indian banks as well as for the government of India. Hence the complete execution of Basel III norms in India is still pending and RBI decided to extent the timeline of complete enactment of Basel III guidelines within 31stMarch 2020.In this paper, we have evaluated the likelyeffect of Basel III implementation on Indian banking industry by establishing the relationship between the parameters suggested by Basel III accord with the total advances,net profits and net non-performing assets. However, India being still under the phase of implementation, the actual impact of Basel III norms on Indian banking companies can be analysed after its complete implementation.

Cloud Computing

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Abstract:--

In the fast growing day of internet, The Cloud computing technology is basically an internet based network made up of a large numbers of servers – mostly based on open standards, It is the on demand availability of computer system resources ,especially storage and computing power, without direct active management by user. The Cloud computing provides low cost, scalable computation capacity and services to enterprises on demand for expansion. Its facilitating the Information technology industry, the research and development in this arena is yet to be satisfactory. Cloud computing is nothing but the sharing of the resources in an open environment which leads to the security problems. The security of the data in the cloud has become the one of major aspects.

The cloud computing term is use generally used to describe data centers available to many users over the internet. The cloud may be limited to a single organization (enterprise cloud) or be available to many organizations (Public cloud) The cloud computing relies on sharing of resources to achieve coherence and economies of scale. Cloud computing resources offered service on an as-needed basis, and delivered by IP-based connectivity, providing highly scalable, reliable on-demand services with agile management capabilities.

The public and hybrid clouds note that cloud computing allows companies to avoid or minimize use front end infrastructure cost, allows enterprises to get their application up and running faster with improved manageability and less maintenance, it proved typically use a "pay as you go" model. Which can lead to unexpected operating expenses

cloud computing mostly based on open standards, modular and inexpensive. Clouds contain vast amounts of information and provide a variety of services to large numbers of people. The benefits of cloud computing are reduced data leakage, decrease evidence acquisition time, they eliminate or reduce service downtime, they forensic readiness, they decrease evidence transfer time . We have discussed on the architecture of cloud computing and different layer of the cloud computing. Such as SasS, PaaS and IaaS layers. Also we have discussed the on security of cloud computing, which is a risk factor involved in major computing fields.

Survey on Portrait Out-Painting

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Abstract:--

Image in painting is a widely studied computer vision problem, which involve restoring missing portions within an image. Current state-of-the-art methods for in painting involve Generative Adversarial Network (GANs) and Convolutional Neural Network (CNNs). Our aim to extend method for out painting, which extrapolates beyond image boundaries. Images can be arbitrarily expanded by recursive out painting In addition, the output images must appear realistic to the human eye. One common method for achieving this is we have to use GANs, which we aim to repurpose for image out painting.

Efficient Power reduction scheme for AES using Hardware-Software Co-Design

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Abstract:--

Embedded product design is driven by various design constraints like Device surface area usage, size, power consumption and performance. These designs will also need to simultaneously address the hardware and software requirements to bring out the product features at each stage, while factoring in that, these requirements may constrain or contribute to each other. All of these have to be achieved keeping in context the time to Market and the Market timing. Hardware/Software Co-design methodology is an often-used approach to design embedded systems in order to reduce the product development time and power consumption. Co-design offers flexibility of design, as there are number of Soft core processors and Hardware development platforms which are available in the market. This paper proposes a new Hardware/Software Co-design methodology, which has been used for implementing the Advanced Encryption Standard (AES) algorithm for encrypting and decrypting 128,198 and 256 bits of data using NIOS II processor, from ALTERA to be imposed in FPGA keeping speed, area and thermal dissipation as focus.

Index Terms

AES, NIOS-II, Hardware / software co-design, Rijndael algorithm.

An Efficient Feature Extraction using Dual Tree Complex Wavelet Transform

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Sanjay L. Badjate, Professor, JDIET,Yavatmal

Abstract:--

In the computer aided schemes in computed tomography (CT) lung analysis identification and characterization of diffuse parenchyma lung disease (DPLD) patterns is a challenge. Due to low contrast and noisy images it is hard to perceive these patterns . In this paper, we propose adaptive enhancement techniques at different wavelet scales using dual tree complex wavelet processing. Moreover, dual tree complex wavelet transform also provides an special feature extraction method for identification and characterization of DPLD patterns. The algorithm projected in this paper has been experimented on number of clinical images, the results are compared with those obtained from other algorithms proposed in the literature through both analytical indexes and the opinions of radiologists. From the results obtained it can be concluded that the proposed algorithm improved the diagnosis in the early detection schemes with respect to other approaches.

Index Terms—

Dual tree Complex wavelet transform, feature extraction, image analysis, image enhancement

Novel Energy Efficient Design of Water-Cooler for Hot and Dry Climate

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Abstract:--

Conventional domestic water coolers found in schools, offices and other public places work on the vapour compression refrigeration system are highly energy-intensive and expensive due to the presence of compressor. An evaporative cooling process is an alternative way to cool the drinking water without the use of external energy in hot and dry weather conditions. This paper illustrates the novel energy-efficient design of water-cooler for a hot and dry climate. The proposed system has lower energy consumptions as compared with the compressor based conventional water cooler. Average drinking water inlet and outlet temperature for the developed system were recorded as 30.50C and 23.060C respectively. The average rate of evaporation of water on jute humidifier was found as 3.116 kg/hr with average heat rejection from the drinking water as 339.73 W. The humidifying efficiency of jute humidifier was estimated as 76.8%. The drinking water at temperature 23.060C was found good for drinking purpose. The coefficient of performance (COP) of the developed system was found as 8.26 with a refrigeration capacity of 0.0968 TR.

Keywords-

Coefficient of performance, Drinking water, Evaporative cooling, Humidifying efficiency, Vapour compression refrigeration system.

Advances in Speech Signal Processing of an Acoustic Echo Canceller using MATLAB

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Abstract:--

The rapid growth of technology in recent decades has changed the whole dimension of communications. Today people are more interested in hands-free communication. In such a situation, the use a regular loudspeaker and a high-gain microphone, in place of a telephone receiver, might seem more appropriate. This would allow more than one person to participate in a conversation at the same time such as a teleconference environment. Another advantage is that it would allow the person to have both hands free and to move freely in the room. However, the presence of a large acoustic coupling between the loudspeaker and microphone would produce a loud echo that would make conversation difficult. Furthermore, the acoustic system could become instable, which would produce a loud howling noise to occur. The solution to these problems is the elimination of the echo with an echo suppression or echo cancellation algorithm. The echo suppressor offers a simple but effective method to counter the echo problem. However, the echo suppressor possesses a main disadvantage since it supports only half-duplex communication. Half-duplex communication permits only one speaker to talk at a time. This drawback led to the invention of echo cancellers. An important aspect of echo cancellers is that full-duplex communication can be maintained, which allows both speakers to talk at the same time. This objective of this research was to produce an improved echo cancellation algorithm, which is capable of providing convincing results. The three basic components of an echo canceller are an adaptive filter, a doubletalk detector and a nonlinear processor. The adaptive filter creates a replica of the echo and subtracts it from the combination of the actual echo and the near-end signal. The doubletalk detector senses the doubletalk. Doubletalk occurs when both ends are talking, which stops the adaptive filter in order to avoid divergence. Finally, the nonlinear processor removes the residual echo from the error signal. To date, the real time implementation of echo an cancellation algorithm was performed by utilizing both a VLSI processor and a DSP processor. Since there has been a revolution in the field of personal computers, in recent years, this research attempted to implement the acoustic echo canceller algorithm on a natively running PC with the help of the MATLAB software.

A Design model for Facial Image Recognition in Biometric Technology using MATLAB

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Abstract:--

The face is one of the easiest ways to distinguish the individual identity of each other. Face recognition is a personal identification system that uses personal characteristics of a person to identify the person's identity. Human face recognition procedure basically consists of two phases, namely face detection, where this process takes place very rapidly in humans, except under conditions where the object is located at a short distance away, the next is the introduction, which recognize a face as individuals. Stage is then replicated and developed as a model for facial image recognition (face recognition) is one of much-studied biometrics technology and developed by experts. There are two kinds of methods that are currently popular in developed face recognition pattern namely, Eigen face method and Fisher face method. Facial image recognition Eigen face method is based on the reduction of face-dimensional space using Principal Component Analysis (PCA) for facial features. The main purpose of the use of PCA on face recognition using Eigen faces eigenvector corresponding to the largest eigen value of the face image. The area of this project face detection system with face recognition is Image processing. The software requirements for this project is Matlab software.

Keywords:-

Face detection, Eigen face, PCA, Matlab software.

Smart Harvest Analysis using Raspberry Pi based IoT

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Abstract:--

Agribusiness is the broadest fiscal portion and accepts a basic part in the general monetary change of a country. The world's population is growing additionally; with that improvement we should make greater sustenance. For the immense number of populaces, it is extremely hard to guarantee the food. From one perspective to guarantee the sustenance of tremendous populace is troublesome then again it is likewise hard to create sustenance thing for food where less measure of individuals and youthful age is additionally losing their interest on cultivating. The extended age has, as it were, originate from incremental changes in development likewise, economies of scale, however that inclination is going to a level. Standard agribusiness procedures are unsustainable and an adjustment in context is required. The concept of Internet of Things (IOT) helps us to join all these elements. Environment real time monitoring is an important factor in smart farming. IOT is a shared Network of objects where these objects interact through Internet. The sensors are connected to web server via raspberry pi controls the field activity. The sensors sense each activity happening in the field and upload in web server.

Keywords-

IoT, Raspberry Pi, Python,Cloud server Introduction

Performance Analysis of WIFI Based IPPBX System

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Abstract:--

Wireless communication plays a vital role in day to day life, Voice over IP(VOIP) is one of the most exciting new developments emerging within the telephony market. Wireless VOIP utilizes wireless LAN technology, the same wireless infrastructure used for the corporate network, in order to communicate. A private branch exchange PBX is an old telephone exchange which requires huge manpower, extra wiring for new connection and extension is difficult to handle. This traditional PBX system i.e. EAPBX was replaced by IP-PBX system, which is the internet protocol based private branch exchange system based on voice over internet protocol (VOIP), which carries voice as a data over internet. An IP-PBX system is a complete telephony system that provide free of cost, without SIM card wireless calling. IP-PBX system uses intranet as the backbone as each organization has existing local area network on which the extension were configured using computer system.

The advantage of this system is that it uses the existing network connection installed for the organization and the management of the extension are very easy as it can be managed from the web browser. The system is compatible for LAN, MAN and WAN.

The IP-PBX system is cost efficient which uses only one computer system as a server or in our project Raspberry pi2 has ARM1176JZF-S 700MHz Processor, 1GB of RAM and 4GB of micros card to install Linux based operating system called "Centos". These operating system consist of telephony package called "Asterisk". This package consists of several features such as Voicemail, Call Waiting, Caller ID, Conference, Call Hold, Call Transfer etc. Asterisk support audio protocol used for the audio communication. The "CentOS" server is Linux based and the Clients were the windows based or Linux based using the 'soft phone' for the communication. The system uses the USB handset as an interfacing device like telephone. The clients are connected to server using hard phone and soft phones. Here the communication is possible using Wi-Fi also.

Poaching as the Apple of an Eye in Talent Acquisition

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Abstract:--
Globally every organization does have a war for talent. Technology and global presence play a major role in this cutthroat era. Though employers use many strategies to acquire talent, competitors do attract talent. In order to attract those talents from competitor's employers can adopt a strategy called talent poaching. Talent poaching is the process of acquiring the right talent from a competing company. Candidates with a high demanding skill always have a demand in the market. Poaching becomes a valuable technique to acquire talent. This paper uncovers the truth about poaching, poaching strategies', legal issues in poaching a talent, downsides of poaching, some of the tips in poaching a talent, approach to attract competitors' talent and some of the ways to protect their talent from competitors.

Keywords:
Poaching, Strategy, Talent Acquisition.

Origami Inspired Rovers to Boost Mars Explanation

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Abstract:--

Origami robots have unique characteristic property to re-configure themselves and serve for multiple purpose during their use. Such potential in new generation rovers can be favourable for a wide variety of applications including research in Space technology. They can be the intelligent assistants for the astronauts, even adapt themselves into unique environment of space and explore rough terrains. Self assembly from 2D shapes to 3D structures after the landing makes them special, even reduces the payload and area to carry. Being artificially intelligent they no more require any human interference or help in any working conditions.

Keywords:

Origami rover, Space science.

Design and Development of Automated Ordering System for Railways

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Abstract:--

Automated Ordering System is a web application that provides a platform for passenger and Railway pantry to order and provide ordered food .Purpose of this system is to replace current manual ordering system of railway pantry as automated ordering system. Passenger can order food onboard any time while travelling without waiting for pantry boy. Passenger has to scan QR code will be provided on seats in train which will open the menu for ordering food. The whole is system developed using Content Management System(CMS).

Keywords:

Web Application , Automated ordering system, QR code, Content Management System

Real-Time IoT-Based Health Care Monitoring for Prediction and Analysis

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Ashwini D. Bhotmange, Computer Science & Engineering, JD College of Engineering And Management, Nagpur, India.
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Abstract:--

Care of critically ill patient, requires spontaneous & accurate decisions so that life protecting & lifesaving therapy can be properly applied. Statistics reveal that every minute a human is losing his or her life across the globe. More close in India, everyday many lives are affected by heart attacks and more importantly because the patients did not get timely and proper help .This paper is based on monitoring of patients. We have designed and developed a reliable, energy efficient patient monitoring system. It is able to send parameters of patient in real time. It enables the doctors to monitor patient health parameters in real time. Here the parameters of patient are measured continuously and wirelessly transmitted using Zigbee. The project provides a solution for enhancing the reliability and flexibility by improving the performance and patient monitoring system. In the current proposed system the patient health is continuously monitored and the acquired data is analyzed at a centralized system. If a particular patient health parameter falls below the threshold value, a . Here, we are using Zigbee for wireless transmission. The Doctor can get are cord of a particular information by just accessing the database of the patient on his PC which is continuously updated through Zigbee receiver module.

Keywords:

wirelessly transmitted, Zigbee, PC.

Numerical Investigation of Variation of Combustion Efficiency of Scramjet Combustor with Change in Length of Wedge Shaped Strut Blunt End

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Abstract:--

The numerical study has been carried out to investigate the combustion efficiency by changing the length of the strut blunt end. Four different length have been selected for the comparison. All the numerical simulation has been performed through Ansys 14.0 Fluent based solver. Hydrogen fueled supersonic combustor is selected to perform the analysis. Reynolds Averaged Navier-Stokes (RANS) equation with finite-rate/eddy-dissipation turbulence modeling are selected to complete the chemical reaction. The same modeling was chosen to complete the validation with the open excess experimental paper. Similar results was identified through the pressure plot and density contours. Grid independence test was also performed through three different size of mesh elements. The maximum combustion efficiency is found in the 3 mm extended length case. However except the 3 mm length case, similar trend can be seen in all rest of the cases.

Keywords-

Supersonic combustion, High Mach number, Blunt end length, Combustion Efficiency

eFresh: Image Based Fruit Quality Evaluation System

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Abstract:--

This paper presents the recent epoch in automatic vision based technology. Paper proposes an automatic fruit quality evaluation system for sorting and grading of fruits and defected fruit detection. The main aim of this system is to replace the manual inspection system. It aims at reducing the time, and increasing the efficiency and accuracy. This system collect image from camera. Image processing is done to get required features of fruits such as colour and size. The system has an already trained dataset of images for the apple fruit. Input image given by the user undergoes several processing steps to detect the freshness by comparing with the trained dataset images. First the image is resized and then its features are extracted on parameters such as colour and CCV and clustering is done by using k-means algorithm. Next, Support Vector Machine is used for classification to classify the image as fresh or tainted, named as Quality classifier system.

Keywords:--

eFresh, Fruit Quality Evaluation System, Quality classifier system.

A Novel approach for Computing Congestion degree of Road Traffic using MapReduce Framework

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Abstract:--

In today's world due to growing population and migration of humans in the urban area, pressure on cities road and road traffic environment has increased exponentially, which leads to traffic jam situation, waiting on squares, growth in fuel consumption, and increase in travel time from source to destination respectively. Hence there is a need for an effective traffic management system to address the problem of urban area road traffic. The biggest challenge is the collection of road traffic data from various sources such as sensors and video surveillance camera and processed it in Hadoop Distributed File System (HDFS). In this paper, we have proposed the novel approach of congestion degree computation using the MapReduce framework in the HDFS. The proposed approach is divided into three part as 1) Efficient framework for road traffic data acquisition using the video camera, 2) Collection of traffic information from road traffic video surveillance camera and 3) Process the traffic data in the HDFS using the MapReduce framework. First, the road traffic data from a video is processed to identify a number of the vehicle, type of vehicle on the road and the speed of vehicles using vehicle details extraction algorithm. Second, the extracted information from video is stored in HDFS using two levels of MapReduce function that can be used to count the number of vehicles and compute the congestion degree for that road. Experimental results show that the proposed method successfully process the road traffic data and compute the congestion degree for efficient traffic management.

Survey on Digital Grampanchayat

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Abstract:--

In 2008, DEF (Digital Empowerment Foundation) initiated the 'Digital Panchayat' project in India, covering more than 1,00,0000 panchayats in various parts of country like all over the state in India like Karnataka, taminadu, Bihar, Panjab, Haryana, Maharashtra.etc The objective of the project was to set an example to the governance and other stakeholders about how web-presence of grampanchayats can create enormous for digitally & Internet and break the barriers of digital divide. In 2010, the National Internet Exchange of India joined the initiative and the programme was extended to 500 gram panchayats in 10 states. Today, the Digital Panchayat platform facilitates and improves day-to-day functioning of grampanchayats through two-way flow of information and content. Moreover, information on decisions taken at gram Sabha meetings get recorded and shared through grampanchayat websites. And other many more ways to share the contents. This enhances transparency as higher level officials, and bureaucrats cannot change decisions at will be taken to that levels. This can be initially transmitted over globe.

Green HRM : Sustainable Use Of Resources & Their Impact

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Abstract:--

Green Human Resources Management (GHRM) is defined as the set of policies, practices, and systems that stimulate a green behavior of a company's employees in order to create an environmentally sensitive, resource efficient and socially responsible workplace and overall organization. The growing role of sustainable development and above all, its ecological aspect, in the development of a modern company competitive edge, leads to the popularization of the question of incorporating ecological practices into the area of human resource policy, referred to as Green HRM. Sustainability strategies are growing fast within thousand of companies nowadays as an answer to the challenges and catastrophes that climate change has brought, and threatens to bring into our world. In a mainly capitalist world, there no way of denying the importance that companies have in the fight to prevent the temperature of the Earth increasing 1.5º Celcius until the end of this century. Whilst the support of senior management is essential in a company's execution of its sustainability management, so is the HR leaders' strategic positioning of the HR function.Technology allows companies to become paperless and for HR this can well start with newcomers. Online portals and folders can be used to archive employees' documentation such as offer-letters, credentials, CVs or recommendation letters. Not to mention that nowadays CVs are mostly sent throughout the Internet, with no need of being print. It can as well be used with current employees' health insurance or car contracts, salary or information on other benefits. Furthermore, when the newcomers first arrive at the office, induction programmes should be designed in such a way as to facilitate the integration of these new employees with the company's culture of green consciousness. This way, besides presenting the company, its history, culture, departments and so on, these programmes should also highlight the company's concerns with environmental issues and the green actions being developed both inside the company and along its value-chain together with other stakeholders.

Keywords :

Whilst , Credentials , Threatens , Incorporating , Catastrophes.

Design and Fabrication of Industrial Trolley – A Review

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Abstract:--

Trolley is a material handling device is to make sure that material can transport one station to desired station at exact time period without any losses. Trolley design has been concern with industrial goals which related some Ergonomics factors including operating forces.

Keywords :

Transport, Industrial Trolley, Ergonomics, Material Handling.

Review on Use of Nanoparticles in Improving Biodiesel Quality

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Abstract:--

The rapidly depleting energy resources is the greatest challenge that the world is currently facing and the only solution to it is exploring the use of alternative fuels. Biodiesel is one of the most popular alternative sources, which can be produced from straight vegetable oil, animal oil/fats, tallow, and waste cooking oil and non-edible oils. Biodiesel has its own share of problems which need to be solved. It acts as a fuel source for microbes, attracts water, and gels to a large extent in winters. Gelling of biodiesel will clog filters and stop the engine. Constant efforts are being put in to maximise the efficiency of biodiesel. One of the newest methods which have been determined is the use of nanoparticles. Nanotechnology is the science, engineering, and technology conducted at the nanoscale, which is about 1 to 100 nanometres. Recent research has shown that the addition of alumina nanoparticles can improve the performance and combustion of biodiesel, while producing fewer emissions. Because of their high surface-to-volume ratio, the nanoparticles have more reactive surfaces, allowing them to act as more efficient chemical catalysts, thus increasing fuel combustion. The presence of the particles also increases fuel-air mixing in the fuel, which leads to more complete burning. In addition to outperforming regular biofuel, the nanoparticle-spiked fuels produced significantly lower quantities of nitrogen oxide and carbon monoxide gases, and created less smoke. The application of other types of nanoparticles for the same is being tested.

Index Terms—

Biodiesel, Nanoparticles, Efficiency

A Review on Cartridge Ink as an Adsorbent to Treat Waste Water

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Abstract:--

Living in an age where water is getting scarcer by the day, and different types of pollutants are increasing, effective methods to treat this polluted water and rendering them useful again is one of the most important goals of environmental engineering. In this review paper we deal with the adsorptive properties of ink in treating waste water and thus discuss what work has been studied in similar fields by experts all around the world. This review paper also consists of discussion on what further work can be carried out to yield positive results and what is the course of action that needs to be followed for improving the current methodology of waste water treatment. Subsequently an attempt has been made for the use of ink and its related properties which can be used as a preferential adsorbent to leach out the pollutants as they get adsorbed on the ink granules. The theme of this paper is to discuss and find the ways to utilize the waste powder ink of computer cartridge, which is produced in tons over the world and thus, obtain "best results out of waste". Physical factors associated with ink and its adsorption parameters are included in this thorough study. The mechanism and kinetics of adsorption of pollutants on ink granules depend on the chemical nature of the materials and various physico-chemical experimental conditions such as solution pH, initial dye concentration, adsorbent dosage, and temperature of the system. The properties of various components of ink such as polyester, dye etc. will also play a role in adsorption of pollutants from water rendering it clean.

Key words:

pollutants, adsorption characteristics, ink, low cost adsorbent.

A Review and Experimental Study on Visual Tracking Based on Deep Learning

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Abstract:--

Visual tracking is the ability to control the eye movements using the oculomotor system (vision and eye muscles working together).Visual tracking can play important role, when it comes to identify an object and to match it with the databaseimages. In visual tracking, deep learning had achieved great success. The main theme of this paper is to review the state-of-the-art tracking methods depends on deep learning.First,we introduce the visual tracking done by manually and secondly, we studied different existing methods of visual tracking based on deep learning. For each paper, we explained the analysis and drawbacks of that tracking method. This paper introduces the concept and research status of tracking, then focuses on the representative applications of deep learning in visual tracking.

Keywords:

visual tracking, deeplearning, attributes.

Charging of Super Capacitor Using Solar Energy

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Abstract:--

Supercapacitor (SC) Or Ultracapacitor (UC), also known as double-layer capacitor, is a new device of stored energy. Its characteristics are between electrolytic capacitor and battery. It has large capacitance and excellent charge discharge performance and compared to normal battery it has the longer useful life. Hence, in future for efficient and economic operation point of view, ultra- capacitor may replace batteries. So, in this project, we are studying the charging of supercapacitors using solar power. Supercapacitors (SC) represent one of the innovative solutions in the field of energy storage technologies and have found their place in today's many high power applications, like traction drives of electric vehicles, energy storage systems for elevators. here, we have charged supercapacitors of various ratings using solar power as it is the source of energy for the future.

Keywords:

Ultracapacitor, charging and discharging rate, energy density, PWM technique.

Dimension Merger in Spatial Domain: A Review on Image Processing

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Abstract:--

Amount of data generated from remote sensing imagery covers wide applications especially in the area of environment monitoring, agriculture fertilization, object detection and tracing and many more. Yet the amount of data gathered requires direction so that such data can be beneficial along with existing human know sources since 1970's when image based object detection came into light. This paper provides an overview of methods and tools that have made machine learning and IOT based solutions a prime area of research when we talk about imagery and its uses for human life improvement. The main goal of the review is to picturize an Internet of things (IOT) based solution for agriculture improvement in India by surveying plant seed cultivation /recognition or diseased leaf segmentation and various methods implemented in the world from various tools sets being used to algorithms being developed. Survey conduction and probable determination in this area is the first foundation towards our research contribution that is highlighted in this paper.

Keywords:

Segmentation, Clustering, Machine Learning and IOT.

Intelligentwaste segregator: Waste segregation, analysis and path optimisation

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Abstract:--

The amount of waste dumped every year is a staggering 2.12 billion tonnes and this value is only going to increase in the coming years. Most of this waste is either reusable or recyclable. However, due to the lack of a proper waste management system, the waste just goes to the landfills without proper segregation. This paper aims at tackling the most important problem of waste management - segregation. With the launch of the Swachh Bharat Abhiyan, Government of India has indicated that cleanliness, sanitation and public hygiene are among its top priorities. To help accomplish these objectives, the paper focuses on segregation of waste into dry, wet, plastic and metal. Dry, wet and metallic waste are segregated based on their dielectric values. Dry waste can be further segregated into plastic waste and other dry wastes such as paper, wood, glass, cloth and such items through image processing. This paper also discusses the path optimisation for waste collection and an IoT based android application that allows its users to manage their waste more efficiently based on analytical services provided. Thus, with functionalities such as waste identification, waste segregation and an optimized waste collection system, the Intelligent Waste Segregator truly becomes a smart bin which helps us in achieving our mission towards becoming a cleaner and greener world.

keywords:

Waste Segregation, Image Processing, Path Optimisation, Intelligent, Mobile Application, Recycle, Capacitive Sensing, Automation, Dry, Wet, Metal, Plastic.

Study of experimental setup for cam and follower mechanism – A Review

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Abstract:--

This review paper consists of synchronized content about the experimental study of cam and follower mechanism carried out by various researchers across the world. The research carried out for analysing the dynamic characteristics has an immense amount of contribution in making certain decisive statements for the selection of cam and follower which corresponds to the area of application. The investigations further being stated shall stand as proof for designing an analysis prototype which will consist of a digital interface for interpreting the correct information obtained as output from the follower. There have been multiple theories on the analysis of various components in a cam and follower mechanism, but a wide scope still persists in improving the operational life of the mechanism. The assimilation of cam and follower in biomedical engineering highly involves the inputs from mechanical engineering to establish itself as supreme relief in the form of prosthetics and implants. Thus the evidences produced by the review of existing theories stand good to finalize the features of analysing prototype.

Index Terms

Cam follower mechanism, Force analysis, Mechanism design, Optimization, Synthesis, Tribology

Factors affecting municipal solid waste composter – A Review

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Abstract:--

In India 101066.27 metric ton of MSW generated daily according to report of Government of India's Ministry of Urban Development (MoUD), and there is huge scope for implementing proper waste management techniques such as Composting, bio-gas, bio fuels etc. Composting is a biological conversion self-heating which generates desired end product such as compost/fertilizer. The composting is beneficial for soil fertility enhancement. Stabilizing the environment, decreasing the global warming and improving waste management system etc. It also reduces the volume of waste and kill pathogens. Municipal solid waste (MSW) compost can be used in agriculture as soil conditioner as well as fertilizer. There are two types of composting 1) Piles or Windrows and 2) In-vessel or reactor system. Of which 'In-vessel or reactor system' consist of mechanical system

This type of composter machine takes usually 30-45 days, where there is scope of improvement of reduction of process time . There are certain governing parameters, if they are controlled the process time can be pulled to optimum values. Like temperature, pH value, Carbon: Nitrogen ratio, moisture content, aeration rate & micronutrients etc. There are certain technical enhancement like maintaining temperature of composter drum, continuous hot airflow, maintaining oxygen respiration are the scope of work for lowering the process time and getting good quality compost which means increasing in productivity. External organisms like composting agents, composing accelerator which can accelerate the composting process. The development of rotary composter is more effective than pile type composting because the due to rotary motion of drum let the oxygen get absorb throughout the clay which don't let anaerobic composting start and make compost less effective..

Keywords:

Composting, factors, c/n ratio, microorganisms, temperature.

Improved QoS for the Sensed Data in theWireless Sensor Network throughCustomized Priority Scheduling Scheme

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Abstract:--

Wireless sensor networks are mainly deployed to monitor the environmental conditions and to transfer the sensed data to the destination. The environmental conditions are monitored periodically to identify the abnormal activities in the environment. The timely detection of the environmental changes will protect the humankind from various calamities like earthquake, fire accidents etc. Thus these sensed data need to be transmitted to the destination within the short period of time only then timely countermeasures can be taken to protect the humankind. These time critical data need to suffer from no delay in the network. But the wireless network is prone to data loss due to the wireless nature and the mobility of the nodes. Thus to avoid the delay and the dropping of the sensed data, the sensed data can be scheduled before transmission. The scheduling can transfer the packets in some order avoiding the packet drop problems and the priority can be given to the packets. So the time constrained packets can be scheduled to transmit first. This avoids the delay of time sensitive data to be reached in the destination. This paper deals with the various scheduling schemes that can be opted in the wireless network and the pros and cons of using each scheduling scheme is also discussed. The proposed customized priority scheduling scheme improves the quality of service of the sensed data when compared with the other scheduling schemes.

Keywords :--

Priority scheduling scheme, real time packets, Quality of service.

A Review of Various Agriculture Systems Based on IoT, Data Mining and Cloud

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Abstract:--

Evolution in technology has opened new gates for agriculture. Various sensors, machines, Information and communication technologies are available and applied in agriculture. Agriculture is vast domain with multiple facets like yield of crop, crop diseases and application of irrigation, fertilizers and pesticides. Climate change and environment effects agriculture which leads in gap in demand and supply of agriculture commodity affecting prizes. To empower farmers need to explore various technologies at cheaper cost. The review of various research work carried by scientist based on IoT, Data mining and Cloud Computing carried out in this paper. This work excludes research papers on crop image and satellite images of farms which is other aspect of analyzing agriculture data.

Keywords:
Agriculture, IoT, Data mining, Cloud Computing

Review the technique for Channel Estimation and Optimization of Network Key Performance for Non-Orthogonal Multiple Access

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Abstract:--

The channel approximation and power distribution issue for the two-user NOMA downlink device with one powerful user and one poor consumer in this research work to provide a comprehensive solution for planning, evaluating and improving a NOMA application over a specific one. The initially implement a different type of linear estimator that seeks to optimize the strong user's average effective signal-to-interference-and-noise ratio with minimal effective average promised to the low user. Existing method to test and analyze different NOMA antenna. Studying the methodology for optimizing the three main parameters of the NOMA multi-antenna, i.e. transmitting energy, input bits, and transmission mode should proceed. Estimation of the NOMA stream on a transmitter or receiver. The purpose of this study is to help in attaining a holistic view of the recent findings and advances from NOMA studies.

Keywords:

Non-Orthogonal Multiple Access, orthogonal frequency division multiple access, successive interference cancellation (SIC)

Thermal and Economic Optimization of Shell and Tube Type Heat Exchanger Using Genetic Algorithm

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Abstract:--
In the present work the design of shell and tube type heat exchanger is optimized in terms of cost and heat transfer rate for triangular and square orientation of heat exchanger tubes using genetic algorithm. The results of genetic algorithms are compared with other optimization algorithms. As per the findings the genetic algorithm performs best optimization on both cost and heat transfer rate as compared to the other optimization techniques observed in the literature. Moreover, the triangular configuration of the tubes gives utmost heat transfer rate at lowest cost than the square configuration.

Key words:
Shell and Tube; Heat Exchanger; Optimization; Genetic Algorithm.

Design and development of IoT based Smart Pet Feeder

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Abstract:--

Domestic pets are very common in every country. Also, in our country there are many families who are fond of keeping pets. As people like to keep pets, pets also need special treatment and care. So, keeping pets is also not an easy task. We need to feed our pet timely. But, because of our busy schedule we are unable to do so. We have designed a smart pet feeder system. This will help us feeding pets anytime. We will be able to feed pets no matter where we are. This device will be totally dependent on internet connectivity. The main idea is to allow pet owners to automatically feed them and even monitor them. Using smart pet feeder in houses will assure pet owners and increase comfort and peace of mind. Especially when we are unavailable for them.

The Design Methodology of PMSM for EV

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Martin Farnadis, Electrical Engineering Dept., Bharati Vidyapeeth Deemed to be University College of Engineering, Pune

Abstract:--
The global environmental issues such as global warming, climate change, loss of biodiversity, deforestation, ozone depletion promotes the research and development of electric vehicles. The electrical machines are used in Electric Vehicles (EV) and numbers of manufacturing companies are doing research on the electric motor performance, electric drives and battery life. The research work explained here gives the general idea of the PMSM design used in electric vehicles, its analysis for different stator slot configurations, slots/pole ratios, rotor configurations, type of PM material used, stack length, back iron, dimensions of the magnet. The design is done in RMxprt as per the required characteristics of the EVs.

Keywords:
PMSM, RMxprt, EV, IPM

A Survey on Security Mechanism to Embedded Platform based IoT Devices

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Abstract:--

The Internet of Things (IoT) is a system of interrelated computing devices, mechanical and digital machines, objects that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

Rapid innovations and ideas in digital objects or devices and information communication technologies lead to the rapid implementation of the Internet of Things (IoT) worldwide. In many research and development organizations different protocols are developed to ensure a stable and secure connection between devices. One of the major concerns of IoT implementation is ensuring the security of the device and Device to device (D2D) communications.In addition, existing IoT communication protocols do not have security features. To address these issues, the proposed system is a secure version of MQTT and protocols where security functionality is enhanced by the existing MQTT protocol, based on different encryption methods, and will be implemented in the main integrated programming tools.

Hygrothermoelastic Response in the Bending Analysis of Elliptic Plate Due to Hygro-Thermal Loading

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Abstract:--

This study investigates the theoretical outline to couple both classical Fourier's and Fick's laws to frame a new non-simple hygrothermoelastic diffusion theory using the wave equation concept. Based on hygrothermoelasticity method, a system of linearly coupled partial differential equations for the thermal and moisture diffusion for the case of a non-simple medium is established. The transient response using the decoupled technique of a multilayered elliptic plate subjected to hydrothermal loading is considered to derive closed-form expressions for temperature, moisture, deflection, bending moments, and hygrothermal stresses. The solutions to the governing coupled equations and its boundary conditions are solved by employing a new integral transform technique. The small deflection equation is found and utilised to preserve the intensities of bending moments and stresses, involving the Mathieu functions and its derivatives. Moreover, the elliptical region can be degenerated into a circular part by applying limitations. Numerical results of the transient response of hygrothermoelastic fields are established graphically for the better understanding the underlying elliptic structure, improved understanding of its relationship to circular profile, and better estimates of the effect of the associated hygrothermoelastic responses.

Keywords:

Hygrothermoelasticity, Diffusion-wave equation, Finite integral transform, Transient response, Non-simple medium, Elliptic multilayer plate.

Closed Loop Control of Insulin Regulatory Systemfor Diabetes

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Abstract:--

In recent times, one third of the world population is prone to many health issues. Among these, the most commonly faced problem is the diabetes. Diabetes is said to be the condition where pancreas is not able to secrete enough amount of insulin to balance the glucose level in the blood. The measurement of blood glucose level in the existing system is done by an invasive device called the Glucometer. With diabetic condition, balance in the level of blood glucose for a person is done by manual injection of insulin or by placing an insulin tablet under tongue at regular intervals which depends upon the measured blood glucose levels. By the use of the proposed system, the blood glucose level is balanced by using a closed loop control mechanism where the blood glucose level is being continuously monitored and the corresponding variations are taken into consideration for exerting the controller action to produce the required amount of insulin which can be injected automatically. The proposed system uses Arduino IDE to perform the controller action. The system consists of a Pulse oximeter for non-invasive measurement of blood glucose levels, a Zigbee module to transmit and receive data, an insulin reservoir and a pump to store and eject insulin at required conditions. Existing methods for blood glucose measurement uses manual techniques and the rise / fall in blood glucose level cannot be identified as and when it happens. The proposed system overcomes this limitation where the monitoring of the blood glucose level is automated and its regulation is also done with high accuracy.

Keywords:

Arduino IDE, Diabetes, Glucose, Insulin, Pulse Oximeter, Zigbee module.

Millimeter Wave Communication for 5G: An Inclusive Survey

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Abstract:--

Millimeter wave (mmWave) is promising new physical layer technologies for 5G. mmWave communication provides much higher carrier frequencies and huge bandwidth compared with existing 4G communication. It offer narrow beam, high throughput, enhance energy and spectral efficiencies and increased network capacity with the usage of massive antenna array. Meanwhile, mmWave communications have some natural disadvantages, e.g., small coverage area, weak diffraction ability, penetration losses and severe propagation loss, due to its short wavelengths. Thus, the present challenge for 5G is how to overcome its limitations while utilizing its benefits. This paper provides an inclusive survey of recent development of mmWave communication for 5G network.

Index Terms

Antenna Arrays, Hybrid Precoding, Millimeter Wave Communication, Mimo, Path Loss, Propagation Characteristics

Waiting Time Analysis at Manually Operated Toll Plazas under Mixed Traffic Conditions in India

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Abstract:--

Toll Plazas are acting as point of revenue generation for the private stakeholders in form of toll from the road users' on the highways. Thus every user has to stop and pay the toll in case of manually operated toll plazas (MTC). Mixed traffic occurring in dedicated lane is the main cause of formation of queue. Thus, the present study is attempted to evaluate the variation in waiting time at manually operated toll plazas. The data was collected from Ghoti Toll Plaza (GTP) in India. The result shows that the mean waiting time was 55.07 seconds (s) irrespective of vehicle class and location. Further, the number of vehicle in queue and waiting time shows the positive linear relationship. A regression model was developed for waiting time in the queue with R2 value of 0.95. The developed model will be helpful to field engineers and toll plaza operators to evaluate the average waiting time in the queue for the vehicles joining queue.

Keywords:

Waiting time in the queue, Number of vehicles in the queue, Toll plaza

Power Factor Improvement Using Capacitor Bank

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Abstract:--

In modern power network, a wide variety of electrical load and power electronics load, which create a varying power demand on the supply system and less power distribution leads to loss of energy. It is necessary to improve the performance of electrical system and maintains power factor at higher value. This method of power factor correction maintain power factor at the high value also avoid over compensation during low load conditions and improve efficiency of a system due to reduction in losses.

Index Terms—

Apparent Power, APFC Panels, Inductive, Fixed capacitors, Power factor correction.

Energy Efficient Motor

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Abstract:--

An alternating current induction motor has been an industry workhorse over 100 years for electromechanical conversion application. Due to toughness, consistency, cheap and repairs free, induction motors (IMs) used in most of the industrial applications. The need for energy conservation is increasing the requirements for saving the electrical energy. It is therefore important to optimize the efficiency of motor drive systems if significant power savings are to be obtained. The study of Food processing industry, it was observed that among a wide variation of induce electricity consuming equipment, electric motors were the major purchaser of electrical energy, accounting for 40-47% of total electric energy. In this paper performance e of standard and energy efficient motor is measure and compare in terms of speed, starting current, full load current at different voltages.

Keywords:

Energy efficient motor, Induction motor, High efficiency motor, Tests

Integration of DG in Distribution System using TLBO Algorithm

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Abstract:--

The objective of this paper is to minimize the real power loss and improve the voltage profile of a radial distribution network using distributed generation (DG). The location and size of DG have been determined with the help of teaching learning based optimization (TLBO) algorithm. In this study, three different cases have been examined the first case is without DG consideration, the second case is with one DG and the third case is with two DG placement under different power factor. The proposed technique has been demonstrated on a 33-bus radial distribution network.

Keyword:
Distributed generation; power loss; TLBO; voltage profile.

Analysis of Image Featuers for Efficient Classification of Thyroid Diseases

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Abstract:--

In current scenario thyroid disorders has become common among the general public/ population. The thyroid gland is positioned in the anterior part of the neck region between the vertebrae T1 and C5 and the lobes of this gland are held together by Isthmus. Computer based system a technique is used for intelligent categorization of these diseases and it is very useful in diseases and diagnostics management. The purpose of the study was to classify the various thyroid types by quantifying the histological image features of Ultrasound images. Six image features were characterized in thyroid tissues, which includes, entropy, mean, brightness, hue, energy and standard deviation oh brightness. To analysis the features statistical stepwise selection and multiple discriminate analyses were used. A new approach which classifies these thyroid diseases is done on the basis of segmentation method. To sort these kinds of diseases some of the techniques used are image enhancement processing to avoid noise and gray level compensation for segmentation.

Keywords:

Ultrasound images (US), Feature extraction, and gray level compensation technique.

Optimization of lifetime Parameters of Multi-hope Wireless Sensor Network using Computational Intelligence Approach

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Abstract:--

Clustering and routing approach in WSNs is assume a significant job to limit the energy utilization of sensor hubs .The power is a feature that influences the life span of remote node network . This literature proposed computational insight way to deal with improves the energy effectiveness in WSN. The general performance pointers of the structure are brought into FLC, Structure of elements of Fuzzy Logic Controller for advancement of result. Enhancement can be done utilizing using computational intelligence approach such as Particle swarm optimization streamlining (PSO) alongside fuzzy logic ,with respect to performance parameter of Multi –hope wireless sensor network (MH-WSN). Experimental result done for low power LEACH protocol , FLC ,PSO and compared with respect to different performance parameter for above mention computational intelligence approach for enhance the working life of WSN.

Index terms:

WSN, Particle Swarm Organization (PSO), Fuzzy logic Controller .MH-WSN.

Challenges in the Development of a New Obturation Device: A Critical Survey in Pune City

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Abstract:--

Dental anatomy plays a crucial role in in human body as it helps in survival. The curing treatment i.e. root canal treatment (RCT) for improper functioning of the anatomy is major challenge for dentists. RCT deals with repairing and saving the tooth that is badly decayed or becomes infected. The RCT, if analyzed mechanically; various factors governs efficacy of the treatment out of which complete filling and sealing of 3D root canal space with suitable biomaterial against bacterial growth is major parameter. Today, thanks to modern technologies satisfactory results are obtained, but the cost of treatment is substantially increased which is unaffordable. Thus, a survey was carried particularly focusing urban area of pune city by visiting more than 75 renowned and regular practicing doctors to understand tools/aids used during RCT with hypothesis of developing low cost obturation device for enhancing augment the dental device feasibility. The success rate of obturation device is high over hand pluggers; but the cost parameters limits the usage of same. The survey also coveys that complete sealing is also not possible with hand pluggers as well as existing available aids, and thus there is a need to develop a low cost obturation devices using dual energy (low operating frequency and heat) source for increasing efficacy of treatment. To test feasibility of the collected data, it's being analyzed trough p-test ($p>0.05$) for selected parameters and correlation was found to be statistically significant.

Index Terms—

Root Canal Treatment, Obturation Device, Dual Energy Source

Design of Digital Signal Processor

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Abstract:--

The paper aims at designing a Digital Signal Processor with 32-bit ISA (Instruction Set Architecture) using Verilog HDL. The processor is demonstrated using uniform 32- bit length instruction set containing instructions that are categorized into three formats, referred to as Register, Immediate and Jump type instructions. The paper gives detailed description of design and simulation of the individual modules like the MAC, control module, arithmetic and logic unit, memory units, register file, program counter, data registers, muxes, ALU control, sign extender and the main module instantiating all formerly mentioned modules. For demonstration purposes, the processor is instructed to find the convolution of two input sequences, thus making use of all three instruction formats. After simulation, schematics generation and timing analysis is carried out in Xilinx ISE simulator.

Index Terms—

MAC, Verilog HDL.

Virtual Telepresence Surveillance Vehicle

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Abstract:--

Telepresence systems are playing an important role in various fields which impacts our day to day task and working. It finds applications in the fields of education, health sector, business, meetings and conferences. The major advantage of telepresence system is that it eliminates the time dependent factor distance for the real world so that interaction with each other is possible instantly. With the transition in innovation in the field of technology due to growth of AI, ML and fast growth in the field of robotics, enough opportunities are available to explore the field of Robotics. These technologies are enhancing the capabilities of humans as well as robots. As the components involved are complex and needs to deal with complicated physics it is important to understand the phenomena within the actions that a robot makes. The paper discusses classification of telepresence robots developed. Information from some prominent literature regarding various robots based on different technologies is summarized. This paper also describes how to design a virtual telepresence surveillance vehicle using Raspberry Pi and the incorporation of sensors in the vehicle.

Index Terms—

Telepresence, Raspberry Pi, Artificial Intelligence (AI), Machine learning (ML).

Supporting infrastructure for the charging of Electric Vehicles

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Dr. Pankaj B. Thote, Electrical Engineering Dept., SBJITMR, Nagpur

Abstract:--

Electrification of transportation is one of the essential components in the smart city planning and electric vehicles (EVs) will be integrated into the transportation system seamlessly. Electric vehicle is an alternative technology to internal combustion engine technology. Charging stations are the main source of energy for EVs, which should be carefully situated in the city so that EVs can easily access the station within the running range. In this paper electric vehicle charging methodology is discussed along with along with modes of charging and role of renewable energy resources in charging stations of electric vehicle.

Index Terms—

charging stations, electric vehicles, power quality, three-phase electric power, total harmonic distortion

Virtual Instrumentation based monitoring of Respiration Parameters

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Abstract:--

This work proposes a respiration measurement system comprising of differential air pressure sensor and a mouthpiece. Exchange of air in and out of the lungs is a result of pressure difference created between chest cavity and atmosphere. A differential air pressure sensor is employed for measurement of Tidal Volume , Inspiratory Reserve Volume and Expiratory Reserve Volume . Differential pressure sensor has two ports: positive pressure port (port 1) and vacuum pressure port (port 2). The subject is instructed to exhale in port 1 and port 2 is exposed to atmosphere. The pressure difference between these two ports is obtained as differential voltage in order of millivolts. The same signal is then amplified using precision instrumentation amplifier. The amplified signal is interfaced with the virtual instrumentation.

Index Terms—

TV; IRV; ERV

Impact of Demand Response Program on Transmission Network Expansion Planning

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Abstract:--

Transmission expansion planning (TNEP) problems have been solved by adopting different approaches. However, in all of them the effect of demand response (DR) programs on the static-TNEP problem has not been studied. The goal of the proposed work is to minimize the total cost. The gbest-guided artificial bee colony (GABC) optimization algorithm is applied to solve the proposed STNEP problem. The IEEE 24-bus system is modified and studied. Numerical examples are presented. Results indicate that the proposed approach has a significant contribution in the field of TNEP.

Index Terms—

Demand response; Investment cost; Gbest-guided artificial bee colony; Transmission expansion planning.

Design of Optical Homodyne Receiver for Detection of Modulated Frequency

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Abstract:--

The presented work is a experimental method for estimation and detection of low frequency signals. An efficient receiver is implemented using balanced homodyne detection. The setup is successful in determining the moving mirror frequencies with minimum noise. Here the local oscillator frequency is the frequency which is applied to the mirror. The beam of two different frequencies is imposed on photo detector circuits, which are subtracted and output signal is observed on oscilloscope. The difference amplifier used should have high CMRR and input impedance..

Index Terms—

Receiver, Frequency Detection, Local Oscillator, Photo Diode

Design & Implementation of 16-bit Baugh-Wooley Multiplier using Microbaze Soft-Core Processor

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M.B. Gholase, Principal, Kamthi Polytechnic, Kamthi

Abstract:--

This Paper presents the work on implementation of 16-bit Baugh-Wooley multiplier based on soft-core processor. MicroBlaze soft core is high performance embedded soft core processor developed by XILINX Company. This soft core enjoys high configurability and allows designer to make proper choice based on his own design requirements to build his own hardware platform. Custom hardware of power optimized Baugh-Wooley signed multiplier is interface with MicroBlaze soft core processor. The major objective for using hardware for realizing Baugh-Wooley multiplier is to utilize hardware for realizing fast and efficient processing capacity.

Index Terms—

VHDL, FPGA, MICRO-BLAZE, SCP , SOC, CAD Tool, EDK.

Efficient VLSI Architecture using Machine Learning Algorithms

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Abstract:--

Machine learning (ML) provides the high end automation of data processing for the wide range of human brain with machine interfacing. Deep machine learning (DML) performs like human brain to achieve automated features extraction, reducing the dimension of the complex data set. Analog signal processing (ASP) need much higher energy efficiency than digital signal processing (DSP), presenting a way for overcoming of these limitations. This paper have reviewed ML techniques which propose analogue memory which can be essential component for learning system. VLSI architecture and circuits are discussed for k-mean clustering algorithm in analogue signal processing. Discussed about unsupervised learning system for different computation node in DML. In addition, also discussed about ultra-low-power circuit to provide similarity measures in analogue signal processing and technique matched with latest development in VLSI, ULSI for CMOS transistor with compact technology.. Moreover the compact technology node size of nanometer (nm) VLSI design and complex fabrication have extreme high complexity which generates heavy gigabytes data Such result helps in designing of VLSI architecture, lithography hotspot detection, and also increases the dependability of physical design with face recognition. The face recognition studied, based on Hidden Markov Models (HMMs) and discrete wavelet transform (DWT). A sequence of overlapping sub-images is extracted from each face image computing the DWT coefficients for each of them.

Index Terms—

AI, ML, DML, DWT, CMOS VLSI .

Convergence of Blockchain and Internet of Things (IoT) Technologies: A Review

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Abstract:--

The Internet of Things (IoT) technology is rapidly transforming our daily lives by allowing us to easily interconnect our daily objects and interact with their environment to collect information and automate certain tasks. To have this technology to be fully functional in practice, it requires seamless authentication, security, privacy robustness against attack, easy deployment and maintenance services. The Blockchain technology born with a cryptocurrency called Bitcoin with decentralized nature comes out as a viable solution which can tackle several of these IoT challenges. This paper presents an overview of both the technologies. It provides the analysis of the merging of Blockchain technology in IoT scenarios

Index Terms—

Blockchain, Internet of Things, Intehration, IoT Challenges

Smart Notice Board using Android Application

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Abstract:--

Notice boards are a common thing in any institution or public utility places like schools, colleges, bus stations, railway stations, malls etc. Notices are important when it comes to offices and educational purpose as notices are used to convey important messages. But sticking various notices in our day to day life is a difficult process. The process of updating the notice board is tedious and time consuming. A separate person is required to take care of all this notice display. The main aim of this project is designing a wireless system using LCD monitor based message display controlled from an Android mobile phone. The proposed system makes the use of wireless technology to communicate from Android phone to display board. The system has a provision for displaying notices in form of text, images, video, web page, documents etc. This project will allow the user to use the android application to update the notices. . This project takes the help of an onboard computer which is commonly termed as Raspberry Pi. This automatic control system used in this project saves the notices for future use. The wireless notice board is modified in order to display notices in any format and provide the user with flexibility as well as over the barrier of distance.

Index Terms—

Notice Board, Wireless, LCD, Raspberry Pi, Automation, Android Application.

Advances of RF Mems for 5G Technology

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Abstract:--

The 5 G is next generation of wireless network promising higher data rates and more reliability in comparison to 4 G network. The high data speed would propel the growth of new technologies, including real time cyber physical systems and Internet of Things (IoT). There is need to develop new technology and systems to process high speed data at transceivers with low power requirement. The Radio Frequency Micro-Electro-Mechanical Systems (RF MEMS) passive devices exhibit boosted performance at high frequencies and is potential contender for deployment in 5 G systems.

Evaluation and optimization of route network using AHP

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Abstract:--

This paper discusses the development of a comprehensive bus route evaluation system using various performance indicators according to rules and regulation of Nagpur Municipal Corporation. Analytic Hierarchy Process (AHP) model is built, which integrates quantitative and qualitative attributes of the routes. To demonstrate the real world application of this developed system 4 bus routes from Nagpur city have been taken for study. Considering all mentioned performance indicators, the developed system prioritized all seven routes from best to worst. The sensitivity analysis is carried out to find the importance of the criteria and sub-criteria for the alternatives using Expert Choice 11.5.

Health Monitoring of Bridges Using Wireless Sensor Nodes

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Shreevats Gadhikar, Department of Electronics Engineering. RCOEM, Nagpur, India
Dr.Kanchan Dhote, Department of Electronics Engineering. RCOEM, Nagpur, India

Abstract:--

This paper highlights the look & implementation aspects of health monitoring of bridges using Wireless Sensor Nodes (WSN). Economic development or the industrial development of a country is firmly supported by bridges, building, power plants, dams and various other important structures. The wide and effective transport network could only be implemented using various types of bridges build over rivers, valleys, and various other natural obstructions. The major parameters monitored are bending, vibration, overloading and strain. Different sensors are installed at the key locations of the bridges and data from sensor is collected. This paper proposes mainly two types of data communication which are – a wireless network between sensors implemented using Zigbee and GSM system for communication between maintenance centre(of bridge) and between the implemented sensor network on the bridge. This technology will enable the bridge maintenance engineers to monitor the condition of the bridge in real time. The bending, traffic, weight of the vehicles etc is monitored by various sensors installed in different parts of bridge. At any point of time if any of these parameters cross their threshold value the communication system informs the management center giving an alarm for taking precautionary measures.

Implementation and Analysis of Wifi VOIP using Raspberry pi

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Abstract:--

This paper focus on the design & amp; implementation aspect of a VoIP based Asterisk voice exchange, to develop a totally purposeful voice exchange has to line up the server supported Asterisk, connecting purchasers thereto server with the assistance of mobile phones so configuring the mobile phones with the assistance of a server because the trendy phone networks begun to require form, personal companies saw a bigger reliance on phone communication. Several plan to implement their own service. so they might handle calls internal to the organization. Voice medium over mobile is presently supported at a value practice service provider like GSM or mistreatment IP service supplier at the cheaper value. the aim of this analysis is to style and implement a telephone program that uses WLAN in p2p (Peer-to-Peer) or Wireless native space Network as a method of communication between mobile phones at no value. The asterisk package will use a correlation between current address books accessible in mobile phones to convert phone numbers into branch of knowledge addresses

Keywords

Raspberry Pi, IP PBX, VOIP, GSM Dongle.

Analyzing Solar Energy Model based on Technical, Economical & Environmental parameter

G S Chakravarty, Lprod Energy /Co-Founder

Abstract:--

India is continuously making efforts to transform the established thermal energy System, (TES) to Renewable Energy System (RES) model in order to achieve carbon-emission targets under the SDG of UN. In bid to achieve 100% RES model, the government is continuously fostering policy that are predominantly directed at power generation using solar PV cells at grid level. The predominant use of solar PV at grid level is attributable to falling cost i.e. lower per unit cost/MW, however detailed study is needed to justify weather solar PV is ideal alternative energy generation model (EGM) to head into future. Introspection of SPV EGM needs careful considerations with respect to Land requirement/MW generation, Water consumption/MW to keep cells efficient, Conversion loss/MW, Manpower requirement etc. The paper highlights the technological, economical as well as environmental issues of SPV EGM in delivering energy security to India

Keywords

Energy Generation System/Method (EGS/EGM) ,Renewable Energy Systems (RES),Thermal Energy System (TES), Mega Watt (MW), Solar Photovoltaic (SPV),Concentrated Solar Power (CSP), Sustainable Development Goal (SDG),Levelized Cost of electricity (LCOE),High Energy Density Systems (HEDS),Technology & Manufacturing (T&M),Closed Loop System (CLS),Zero-Conversion Losses (O_CL).

An Assessment of Factors Differentiating Perceptions Towards Job Satisfaction among Male & Female Employees

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Abstract:--

Job satisfaction is an essential component of workforce productivity and enthusiasm. Similarly, teachers are the workforce of the University. The paper studies the various factors influencing Job Satisfaction among University Teachers in Nagpur city. This study attempts to identify the differences in factors leading to job satisfaction among the teachers. The researcher believes that this can lead to the identification of specific steps that can be taken to ameliorate the issues. Data collected using a questionnaire was analyzed using Independent Samples t-test. The results of the test revealed that there is a significant difference with respect to the factors of training opportunities, reward systems, recognition of performance, favourable working environment, communication within organization, appropriate and timely feedback, code of ethics and opportunities of advancement among male and female respondents. Suggestions and recommendations to tackle the issues have been made.

Keywords

Job Satisfaction, Gender, University Teachers, Nagpur

Review of Various Image Segmentation Methods

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Dr.Asha Ambhaikar, Dean Student Affairs, Kalinga University

Abstract:--
Semantic Image segmentation is the challenging task in computer vision which is carried to segment the regions which resemble the objects. The paper is a survey paper which gives the various segmentation methods used in computer vision, their advantages and disadvantages. The paper concludes with the fact that deep learning has becoming the promising approach for the semantic image segmentation. Convolutional neural networks have been widely used for doing the segmentation process.

Keywords
Computer Vision, Convolutional neural networks ,Segmentation

Surface Texture to Reduce Friction Coefficient

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Abstract:--
The Surface texture is one of the important factors that control friction and transfer layer formation during sliding. Surface texture of a harder mating surface has a great influence on frictional behaviour.

The surface appearance is important for the both the lubrication regime and the level of friction. A rough surface in boundary lubrication often gives a deformation component to the friction. The friction of well-polished surface in a boundary lubrication in dominated by the adhesive shearing of the interface. With the aim to control friction, either high or low, a control of the surface is of major importance.

In this research, we work on the textures that can be used for the reduction of friction coefficient.

Characterisation and Experimental Investigation of Neem Oil as Biolubricant in Si Engine

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Abstract:--

Production of neem seed oil and the evaluation for suitability as bio lubricant in spark ignition engine was carried out in this work. The physical properties of the fluid which influences its use such as relative density, 0.922 g/m3, and flash point, 1200°Cwas found to be slightly lower than the range given by the SAE standard for engine oil, while the pour point value of -490C obtained is an indication that Neem seed oil has better freezing properties and saponification characteristics. Average values of the viscosity is 21.285 Ns/m2 and pH value is 8.762. Neem seed oil is less prone to attack system components and can effectively be used in winter and tropical regions within the permissible limit of optimum range of viscosity given between 21.8 and 25 as specified by the Society for Automotive Engineers. This research work has successfully established that Neem seed oil can be use as base oil for the production of engine oil.

Role of CSR in supporting tribal handicrafts of Jharkhand

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Mona Ratnesh, Assistant Professor, Amity University Jharkhand

Abstract:--
This study is to investigate the contribution of Corporate houses towards the socio-economic development of the local communities with the focus on women artisans in Jharkhand. They are promoting local art and supporting artisans via CSR projects. These CSR projects acting as a tool of skill development for tribal artisans in Jharkhand. This study also critically compares the CSR initiatives adopted by Jindal Steel and Power Ltd. and Tata Steel Ltd. in light of the promotion of tribal handicrafts. In the end, the study explores the impact of such projects on the socio-economic development of the local community. This exploratory study is based on the secondary data that is sourced from various secondary data resources such as auditor's annual report, CSR reports of respective corporate houses, old research papers, various journals, books, corporate websites, governmental data, etc. It should be noticed that this way of promoting art could also be used by other CSR initiatives to change the lives of the unprivileged sections of society.

Keywords:
Handicraft, CSR, Promotion, Skill development, Marketing, Tribal

Review of LEACH & TORA Protocols in Computer Networks

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Abstract:--
Now a days the use of wireless network is very common and it's widely used in many important day to day applications such as mobile ad-hoc networks, vehicular communication, health monitoring, disaster detection, weather forecasting etc. Wireless Network is consisting of independent communicating nodes with each other. Power consumption plays vital role in wireless networks. In wireless routing among various routing techniques, energy consumption is one of the most important considerations. For minimize of energy consumption, hierarchical routing protocols are the best suitable protocols. LEACH (Low Energy Adaptive Clustering Hierarchical) is a hierarchical clustering protocol. It is one of the most energy efficient clustering protocols. An attempt has been made to compare the performance of two protocols LEACH and TORA. This proposed review is to identify the performance of LEACH and TORA Protocols. To increase the lifetime of the network, LEACH is the first protocol that uses hierarchical routing for wireless networks. All nodes in a network organize themselves into local clusters. In each cluster one node acts as the cluster-head. Therefore, a cluster-head node must have much more energy than the other non-cluster-head nodes. Thus, whenever a cluster-head dies all the nodes that belong to the cluster loses the communication ability. TORA is a reactive routing protocol for multi-hop networks with some proactive features. The distributed and loop-free routing is used as nodes need only maintain one hop information in the routing table. TORA is designed to reduce the communication overheads related for adapting to network topological changes. This review gives comparison of performance of LEACH & TORA protocols considering parameters (i) packet delivery fraction (PDF) (ii) average end-to-end delay (iii) packet loss. TORA performs better in terms of Packet Delivery Fraction as compared to LEACH. TORA performs better with higher traffic as compared to LEACH, whereas LEACH performs better for average end-to-end delay and packet loss.

Keywords:
LEACH; NS2; TORA Wireless sensor networks.

Survey on E Daily Needs Online Shopping Platform For Nearby Shop

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Abstract:--
"Smart Shopping Application" presents an alternative method ofdoing shopping easily as well as providing security moneywise for customer satisfaction. This is implemented using android which supports NFC. In traditional way customer needs to physically purchase his product application that provides an easy platform Abstract- E daily needs is an web to local shopkeepers and vendors to sell products more easily. The goal of this application is to deliver order in minimum span of time as this is observed that shopping for daily needs items like stationary, grocery, vegetables, etc takes long span for delivery so to make products deliver within 30 minutes .This web application focuses to make shopping easier and faster. The customer will place an order and then the products will be deliver within minutes which saves customer's time and shopkeeper to grow their business

Automation of Grain Elevator Control Unit

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Abstract:--

Power consumption in large scale industries is humongous. Thus, energy-efficient practices and the system is paramount. This paper addresses one such issue wherein the unnecessary working of the operation unit is stopped by making use of simple automation technique. The automation system designed does tripping operation in which it disconnects supply to the motor running conveyor belt. Thus, escaping unnecessary running of the unit under certain abnormalities. The trip circuit has been prepared using a contrived automation technique and involves an IR sensor. The Ardiuno programming device has been used for giving the trip signal to the control system.

Index Terms

Arduino board, belt conveyor, bucket elevator, IR sensor module.

Low Noise & Phase Locked Generation of Photons for Visible Light Communication

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Abstract:--

Visible light communication (VLC) systems have become promising candidates to complement conventional radio frequency (RF) systems due to the increasingly saturated RF band and the potential high data rates. This paper proposes implementation of VLC with phase locked photons. Laser diode is used as a light source and photo diodes as receivers. First message information is converted to binary code, which triggers laser diode with the help of interfacing circuit. Lasers, with their high energy and optical efficiency, can be modulated at 10 times the rate of LEDs. The laser beam is coupled to single mode fiber with the help of lens system and split into multiple parts with single mode fiber splitter. The single mode fiber has numerous benefits for long distance communication. The principle of Interferometry deals with the superposition of light waves where if two waves coincide in phase it leads to formation of bright fringes which is constructive interference. If two waves are out of phase, dark fringes are formed which is destructive interference. This paper proposes the principle of interferometry and the design of Michelson delay line interferometer along with formation of Fabry Perot cavity in one of the paths between cubical beam splitter and movable mirror. Fabry-Perot cavity is designed to filter light rays and obtain sharp narrow beam. The output beam i.e. fringe pattern is taken from photodiode and the waveform is seen on LabVIEW which provides platform for virtual instrumentation. The output of multiple fiber ports is connected with photo diodes. The experiment is also performed in free space by using three free space beam splitters. The graphical user interface for this system is developed in LabVIEW, which provides platform for virtual instrumentation.

Index Terms

Interferometer, LabVIEW.

ICT & Education

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Abstract:--

The Indian education system is developing since the past few decades. The changes in the infrastructure and acceptance of technological support systems for the propagation and usage of ICT have been made. ICT has had a great deal of advantages on offer to the education system for both the student and the teacher. Even governments have identified means of using and promoting ICT in education. There are multiple benefits to ICT such as helping students visualize the content better, clearer demonstration by the teachers and catering to personal requirements of the students as well. However, there are some structural issues and challenges in the usage of ICT such as poor infrastructure, lack of teacher training etc. This study has made suggestions to improve the usage of ICT in teaching.

Keywords:

ICT, Education System, Teachers, Students, Government Policy

Customer Perception Online Food Delivery Sector

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Abstract:--

In the present era of fast world, Indians are becoming more foodies. In India, Food Services emerge as a important segment in Indian economy. The facts and figures from the available literature provides a stand for the potential in the sector of Food Services. The objective of this research work is to understand the level of customer satisfaction in the online food delivery aggregator. A sample survey of 85 respondents of the Nagpur region has been analyzed on various dimensions customer perception for the Online Food Delivery Sector. Thus this research work is an attempt to find out the key factors which can increase the business segment of Online Food Delivery Sector.

Keywords:

Customer perception, food service sector

Students Perception on Digital Banking

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Abstract:--
The research paper aims to study the perception of students towards accepting digital banking. The study tries to examine whether the students as they are todays generation are the comfortable in using digital banking like online banking, mobile banking through banks customized mobile software application. Its tries to examine the relation between the gender of students and their perception about the digital banking.

Keywords:
Digital Banking services, Gender wise perception

Nagpur Metro Construction Project using CPM and PERT

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Abstract:--

Network is a technique used for planning and scheduling of large projects in the fields of construction, maintenance, fabrication, purchasing, computer system instantiation, research and development planning etc. There is multitude of operations research situations that can be modeled and solved as network. Some recent surveys reports that as much as 70% of the real-world mathematical programming problems can be represented by network related models. Network analysis is known by PERT (Programme Evaluation and Review Technique), CPM (Critical Path Method). A fundamental method in both PERT and CPM is the use of network systems as a means of graphically depicting the current problems or proposed projects in network diagram. A network diagram is the first thing to sketch an arrow diagram which shows inter-dependencies and the precedence relationship among activities of the project.

The objective of this research is to arrange network planning on Metro construction project and know the role of network planning in increasing the efficiency of time so that the optimal project completion period can be obtained.

Keywords:

Network Planning, Critical Path Method, Programme Evaluation and Review Technique

Cost & Time Calculation of Metro Project using Crashing Method

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Abstract:--
Crashing is reducing project time by expending additional resources crashing the network is the contracting or compressing the network that means to reduce project duration at minimum cost with minimum project duration. Network analytical tools like CPM/PERT are used for project scheduling and to determine the optimum associated cost and time. Project duration can often be reduced by assigning more labor to project activities, but this additional labor, overtime and resources increase the project cost. Crashing method is used to reduce project duration which is based on analysis of trade off between time and cost
The objective of this research is to arrange network planning on Metro construction project and know the role of network planning in increasing the efficiency of time so that the optimal project completion period can be obtained by using the Crashing method.

Keywords:
Crashing, Critical Path, Critical Slope Value.

Selection of Welding Process to Fabricate Butt Joint of Dissimilar Metals Using Analytic Hierarchic Process

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Abstract:--

Welding is a permanent joining technique uses heat and/ or pressure to fabricate high quality joints. There are numerous welding techniques, so selection of a welding is very crucial task for the industry. Decision of selection of a welding method can be made by high skill professional with consideration of qualitative and quantitative factors. The selection of a welding method for particular application is essential to fabricate high quality and low cost welding joint. Dissimilar metals have poor weldability. Dissimilar metals can be joined effectively by using Laser, Electron beam, Friction and Ultrasonic welding methods. Analytic Hierarchical Process (AHP) is one of the best Multi-Criteria Decision Making (MCDM) technique to select a best alternative based on some qualitative and quantitative factors/ criterion. AHP has been successfully implemented, results shows that Laser welding is best suited to weld butt joint of dissimilar metals (ferrous and copper/ aluminium alloy).

Keywords:

AHP, Dissimilar metals, Electron beam welding, Friction welding, MCDM, Laser welding, Ultrasonic welding, Welding.

Assesment of Adsorber Bed Design for Adsorption Refrigeration System

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Abstract:--

Loss of heat happens through different procedures happening in process enterprises and from fules burnings in engines , boilers which add to increment in temperature of the globe, bringing about worldwide worming as the warmth lost in such procedures contains contaminating specialists these dirty nature of humans is bringing about exhaustion of ozone layer, on other hand for the solace molding, human needs of cooling are expanding step by step and the enormous measure of power delivered is used by the cooling framework everywhere throughout the globe so as to beat the issue of a dangerous atmospheric deviation and ozone layer consumption a waste heat fueled refrigeration framework can be structured shortened as adsorption cooling framework, which is an eco-accommodating framework as it doesn't employments of any ecological unsafe refrigerants. This paper surviving a general audit of assorted sorts of structures of adsorber beds utilized for the adsorption refrigeration framework are talked about in detail with their heat and mass exchange qualities.

Keywords:

Adsorbent, Adsorbent, Adsorber bed,Adsorption Refrigeration.

An Improved Heuristic Approach towards Plant Layout Optimization

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Abstract:--

An improved heuristic approach is planned and experimented for plant layout optimization. One of the alternatives to find out optimum solution in the area of plant layout could be achieved by trying different shapes and arrangement in plant layout location. The various shapes and sizes and its analysis is discussed in the paper. The idea of this alternative of placing departments in other than rectangular shapes are experimented and analyzed. It is not discussed in such logic before. It is novel idea which is being incorporated and set up a new scope for the researchers to look for this dimension of incorporation in optimization of plant layout. Traditional approach of plant layout optimization considers rectangular shapes. In this paper the emphasis is given to hexagonal shape instead of rectangular. Heuristic approach is experimented Honeycomb way. We know that a Hexagon has six sides and it can accommodate six departments near it.

Comprehensive Study on Recent Advances and Future Trends in Detection & Recognition of Scene Text

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Abstract:--
Increasing use of smart phone in our daily life to capture images initiates a need to recognize text from natural images which is nowadays a promising research topic in the field of computer vision and document analysis due to its various applications. Text in natural scenes exists in almost every phase of our daily life. From the front of the buildings in our locality to the cover of a book in library. Certainly, text is one of the most radiant and powerful creations of human kind. Despite of variety of challenges and issues, especially in current era, lot of advancement has been taken place in terms of techniques and datasets use for detection and recognition of text.
The purpose of this survey is (1) introduce recent works, (2) identify modern algorithms and datasets, (3) identify different adversarial attacks on text recognition, (4) identify the different libraries supporting text detection and recognition task, (5) next generation applications and predict research guidelines for the future. Additionally, this manuscript offer in detail comparative analysis of recently used techniques and benchmark datasets. This study can offer a noble orientation for beginner researchers in the field of detection and recognition of scene text.

Keyword:
Adversarial attack, Computer vision, Text detection, Text recognition

Assessing the impact of Social Media Marketing vis-à-vis Content Marketing as tools of lead generation: Empirical evidence from startup firms in India

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Abstract:--
Content marketing and Social Media marketing are two similar yet distinctively unique tools used by firms in order to enhance their sales figures. These two tools have been quite effectively and routinely used by firms of all sizes across geographies. This study specifically studies the usage of these by the startup firms as a tool of generating leads for prospective clients. The study uses a sample of 207 startup firms which use these marketing tools in the on various digital platforms in order to create sales leads. A comparison of the two practices reveal a growing inclination of the startup firms towards content marketing as the traffic grows in the social media. We perform Mann-Whitney U test and Regression analysis for the purpose of testing our samples and to draw conclusions on the major influencer of sales lead generation. We also analyse the return on investment of the marketing efforts on content marketing and social media marketing, to further reinforce our conclusion of increased weightage to content marketing by the startup firms in India. Content marketing has also yielded higher consumption rate when measured using the common metrics.