Dedicated to our beloved Founder Chairman

He is a born fighter. He fought adversity in his childhood. Once his mind was made up to start educational institutions, hurdles and set backs could neither deter his progress nor dampen his enthusiasm. His dedication and devotion towards his crusade is contagious and it rubs on everyone who comes in contact with him.

May his tribe grow!

Sairam INSTITUTIONS

The inspiration…

Born into a typical middle-class family, MJF**. Ln. Leo Muthu** began his career as a government employee and rose to become a highly successful entrepreneur Band made all his fortune from real estate business spread across south India.

Despite being a busy and highly successful businessman, he always found enough time and had the passion to serve the society. He always wanted to make a significant contribution to the society.

He was actively associated with the Lion's movement and was instrumental in starting "The Academy for Blind" and "Home for Aged" under the community service programme of the lions Club. Besides, he is also actively associated with a large number of educational, social and Medical activities in south India. It was his dream to build a school, and thus was born Sai matriculation school in the year 1989.it was established with the primary goal of providing educational services to all sections of society. And it marked the birth of Sairam Group of Institutions. It was just the beginning...

Many more institutions followed in the next few years. Sri Sairam College of Engineering was started in the year 1997 and ever since it remains as the flagship institutions of the Sairam group of institutions. In the span of two decades Sairam Group institutions has grown both in size and reputation. Today Sairam Group of Institutions with 23 institutions including 3 Engineering colleges, educate thousands of students every year in variety of subjects ranging from Engineering, Polytechnic to Indian System of Medicine and teacher training through exemplary and exceptionally skilled staff. Today, Sairam Group of Institutions has become a name synonymous with quality education.

Devoted and highly qualified faculty, well-equipped laboratories, full–fledged library, play ground, cafeteria and transport facilities are common features of Sairam Institutions. On the whole, a healthy atmosphere providing all-round education is what best describes a Sairam Institutions. MJF. Lion. Leo Muthu, has devoted his life to the cause Education and social activities. Through he is not with us today, the vision and values set by him will continue to guide us excel in the field of education.

In Short MJF. Lion. Leo Muthu is a man with golden dreams & a never–ending enthusiasm of converting dreams in to reality.

IFERP
connecting engineers...developing research

Sri SAIRAM COLLEGE OF ENGINEERING
Anekal, Bengaluru

i7C – 19

International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites

Anekal, Bengaluru

28th –29th November, 2019

Organized by:

Sri Sairam College of Engineering

Anekal, Bengaluru

and

Institute For Engineering Research and Publication

Rudra Bhanu Satpathy.,
Director,
Institute For Engineering Research and Publication.

On behalf of ***Institute For Engineering Research and Publications (IFERP)*** and in association with ***Sri Sairam College of Engineering,*** Anekal, Bengaluru. I am delighted to welcome all the delegates and participants around the globe to ***Sri Sairam College of Engineering, Anekal, Bengaluru*** for the ***"International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-19)"*** which will take place from ***28th – 29thNovember '19***

Transforming the importance of Engineering, the theme of this conference is ***"International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-19)"***

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 **(SSEC & IFERP)** 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 ***Anekal, Bengaluru***

Sincerely,

Rudra Bhanu Satpathy

Preface

The "**International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-2019)"** is being organized by **Sri Sairam College of Engineering, Bengaluru, Karnataka, India** in association **with IFERP-Institute for Engineering Research and Publications** on the **28th - 29th November' 2019.**

Sri SaiRam College of Engineering has a sprawling student –friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the divine city of Bengaluru in Karnataka.

With blessings of Lord Shirdi Sai Babha the "**8th International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-2019)"** was a notable event which brought academia, researchers, engineers, industry experts and students together.

The purpose of this conference is to discuss applications and development in area of " Chip, Circuitry, Current, Coding, Combustion & Composites" which were given international valves by Institute for Engineering Research and Publication (IFERP).

The International Conference attracted over 176 submissions. Through rigorous peer reviews 85 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 advise from our advisory Chairs and Co Chairs. We thank all the members of our local organizing Committee, National and International Advisory Committees.

Dr. G.Manjula
Prof. Malini.K.V
Program Chairs
I7C-2019

Sai Prakash Leo Muthu
Chief Executive Officer
Sri Sairam College of Engineering
Bengaluru-562106

MESSAGE

On behalf of Sri Sairam College of Engineering, it is my pleasure to invite all of the great academicians, young researchers, Business delegates and students from all over the world to attend the **8th International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C – 2019)** on November 28th & 29th 2019 organized jointly by Sri Sairam College of Engineering and IFERP.

i7C – 2019 conference shares an insight into the recent research and cutting edge technologies, which gains immense interest with the young and brilliant researchers, business delegates and talented student communities.

The goal of this conference is to bring together, a multi-disciplinary group of academicians and students from all over the world to present and exchange break-through ideas relating to the Engineering. It promotes top level research and to globalize the quality research in general, thus making discussions, presentations more internationally competitive and focusing attention on the recent outstanding achievements in the field of Engineering, and future trends and needs.
Since this conference covers very global aspects on engineering from very fundamental issue to practical application of the principle of Engineering, anyone interested in future progress of Engineering should not miss.

I congratulate you for your commitment and active participation and wish you all the success.

With best wishes!

SAI PRAKASH LEO MUTHU

Dr. R. Arunkumar
Management Representative
Sri Sairam College of Engineering
Anekal, Bengaluru-562 106

MESSAGE

It's indeed a great honour and privilege for me to extend a wholehearted welcome to all the delegates for the **8th International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C – 2019)** which takes place in Sri Sairam College of Engineering, Anekal, Bengaluru on November 28th & 29th 2019. The Technological expansion is considered to be the prerequisite reserve in the modern era of Engineering as well as in the Science & Technology. Today, it is impossible to think of existence without Science & technology.

The **International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C – 2019)** will provide a high profile, leading-edge technology forum for the researchers and practitioners. It will examine key critical innovations across the technologies with increasing interest from number of new ideas.

I am sure that you will enjoy this conference, and find it a stimulating and informative meeting. I take this opportunity to request you to actively participate to add to the richness of this conference and make it memorable event.

With best wishes.

DR. R. ARUNKUMAR

Dr. B. Shadaksharappa
Principal
Sri Sairam College of Engineering
Anekal, Bengaluru-562106

MESSAGE

Greetings from Sri Sairam College of Engineering, Bengaluru

It gives me great pleasure to welcome you to the **8th International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C – 2019)** at our institution in association with the Institute for Engineering Research and Publication (IFERP).

Education is not only an act of acquiring knowledge but learning a skill to lead life and grooming ones' personality. Education of the highest order aims at guiding, inspiring, motivating and leading young men and women to become successful leaders to serve the country better. Research is the key parameter to promote the individuality to horizon. In order to create the best engineers, our college has been providing environment to enhance the research activities even from the budding student engineers since its origin.

This Technical International Conference will provide a international platform by bringing together local and overseas technical researchers and students to exchange their experienced knowledge and expertise issues relating to the dominating technology trends.

I wish all the best to the participants and the organizing committee of the said conference, who have put lot of efforts for successful organization of this International Conference

DR. B. SHADAKSHARAPPA

Prof. Sivaprakash. C
Professor & Head,
Dept. of Electronics & Communication Engineeirng,
Sri Sairam College of Engineering,
Anekal, Bengaluru- 562106

MESSAGE

It gives me pleasure to know that Department of Computer Science & Engineering and Department of Electrical & Electronics Engineering organizing 8th International Conference "i7C" on 28th and 29th November, 2019.

I am sure that the interaction of researchers with various internationally renowned counterparts will go a longway in knowledge sharing to help the researchers and the engineering industry to grow and contribute to excel globally.

The conference will provide a platform for exchanging research and scientific ideas on the latest developments.

Since this conference covers global aspects of engineering from minute issues to the macro scale application of the principles of science & engineering.

On behalf of the Department of Electronics & Communication Engineering, I welcome you and wish you a successful conference.

Prof. Sivaprakash. C

Prof. Malini K.V

Program Chair – i7C - 2019
Professor & Head, Dept. of EEE
Sri Sairam College of Engineering
Anekal, Bengaluru-562106

MESSAGE

It gives me immense pleasure to pen that Sri Sairam College of Engineering is organizing an **International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C – 2019)** in association with the Institute for engineering research and publication (IFERP) on 28th and 29th November 2019. The applications of any advanced science and engineering is to facilitate the nation for its development. Electrical Engineers in the present day scenario have a challenge to provide reliable electrical energy supplies by harnessing renewable energy resources interconnected with the efficient control and operation.

The conference is aimed to serve as a premier venue for the dissemination of leading edge research in electrical power and related technologies.

I hope that this conference would certainly light up innovative ideas by paving way to new inventions and integrate new technologies in the Electrical and electronics engineering sector and the deliberations in the conference will help researchers from academia, industry and the conference will provide a platform for initiating collaborative research projects.

Best wishes.

Prof. Malini K V

Dr. G. Manjula
Program Chair – i7C – 2019
Professor & Head (CSE)
Sri Sairam College of Engineering
Anekal, Bengaluru-562106

MESSAGE

Dear Participants,

It is a great pleasure for me that our college is conducting an **International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C - 19)** on November 28th & 29th 2019.

The conference is a meeting and information exchange between the end user, the development and the research communities. The purpose of this conference is to bring together researchers, experts from industry, academia, and other interested organizations to meet, exchange information and ideas in developments in the field of **Chip, Circuitry, Current, Coding and Combustion** applications. It brings together the newest developments in new technologies in engineering solutions, and academic research results. The conference program has been designed to provide ample opportunities to researchers to network and to share ideas and information about recent trends in Engineering and Technology.

To ensure the quality of the proceedings, each paper submitted in the conference was peer reviewed at least by two experts from all over the world, and revised by the authors carefully.

I hope this **International** conference **i7C – 19** will be enjoyable, memorable, and productive for participants and looking forward to the technological innovations that result from your networking and discussions.

Once again I would like to appreciate the meticulous team work of the Sairam family. Anticipating your privileged presence at Sri Sairam college of Engineering!!

With best wishes!

Dr. G. Manjula

Prof. BALAJI.V M-Tech., (Ph.D)
Head of the Department
Department of Mechanical Engg.
Sri Sairam College of Engineering
Bengaluru

MESSAGE

It is my great pleasure to welcome you all to the **8th International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites** (I7C 2019) which takes place in Sri Sairam College of Engineering, Bengaluru on Nov 28th – 29th, 2019.

The conference is a meeting and information exchange between the end user, the development and the research communities. The purpose of this conference is to bring together students, researchers and experts from industry, academia, and other interested organizations to meet, exchange information and ideas in developments in all major engineering disciplines. It brings together the newest developments in new energy related technologies; engineering solutions, and academic research results. The conference program has been designed to provide ample opportunities to researchers to network and to share ideas and information on various domains.

We welcome you all for i7C 2019 and hope that your stay at SSCE campus turns out to be intellectually stimulating and professionally enriching. We are sure, i7C 2019 leaves long lasting memories and a strong legacy to emulate.

BALAJI.V

Dr. P. Gangavathi
Professor & Head, Dept. of S&H.
Sri Sairam College of Engineering.
Anekal, Bengaluru-562 106

MESSAGE

On behalf of the Conference Series i7C conferences, it is my pleasure to invite all of the great scientists, academicians, young researchers, Business delegates and students from all over the world to attend the 8th International Conference on ***CHIP, CIRCUITRY, CURREENT, CODING, COMBUSTION AND COMPOSITES*** on November 28th & 29th 2019 at Sri Sairam College of Engineering Bengaluru.

The goal is to bring together, a multi-disciplinary group of scientists and engineers from all over the world to present and exchange break-through ideas relating to the ***CHIP, CIRCUITRY, CURREENT, CODING, COMBUSTION AND COMPOSITES***. It promotes top level research and to globalize the quality research in general, thus making discussions, presentations more internationally competitive and focusing attention on the recent outstanding achievements in the field of Engineering and Technology, and future trends and needs.

We're looking forward to an excellent meeting with great scientists from different countries around the world and sharing new and exciting results in Current Research Trends.

Dr. P. Gangavathi

Prof. Bheemeswara Reddy V
Training and Placement Officer
Sri Sairam College of Engineering
Anekal, Bengaluru-562 106

MESSAGE

It is an Immense pleasure to invite all of you to the 8th **International Conferenceon Chip, Circuitry, Current, Coding, Combustion and Composites (i7C – 2019)** deliberated at Sri Sairam College of Engineering, Anekal, Bengaluru on November 28th& 29th 2019.

The conference delivers an international prospect to the prominent Academicians, Engineers, Scholars, Industry experts. To interchange their concepts, capabilities and augments their prospective prolifically in the arena of technology.

It is good opportunity to the participants to showcase the innovative ideas in their research papers and their presentations.

I anticipate this 6thInternational conference delivers an affluent platform to all the accomplices expediting in their imminent research in the future.

My best wishes to all the participants.

Prof. Bheemeswara Reddy V

Guest of Honour

Dhananjay Singh

Vice President- Engineering | eGovernments Foundation
Bengaluru, Karnataka, India

MESSAGE:

I am honored to be part of "International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (I7C - 2019)" organized by Sri Sairam College of Engineering in association with Institute for Engineering Research and Publication (IFERP).

Great to see people from the different corners of the globe come together and make Engineering impactful for our life and next generations. Today we can not imagine life without Engineering disruptions and it has become integral part of our life.

I am delighted to see the topics for the Papers. It's like I7C-19 has everything covered from the Engineering point of view. You name it and you will find the field of interest in the Papers topic.

My message to all participants is to keep two things in mind when you design your thoughts into Engineering- First one is Platform Thinking where people can come and contribute to your idea as a Platform and Second thing is Impact on Citizen's life.

I would like to extend my thanks to all participants who have joined I7C-2019 conference to make our future better with Engineering Disruptive ideas.

Dhananjay Singh

i7C -19

International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites

Keynote Speakers

Sai Satish Babu .N

Data Scientist, Solution Architect

British Telecom ,Bangalore

MESSAGE:

It is indeed great pleasure for me to be keynote speaket at the "International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (I7C - 2019)' organized by 'Sri Sairam College of Engineering (SSCE), Bangalore' and 'Institute For Engineering Research and Publication (IFERP)'.

Its important that we gather on occasions such as this, to discuss the achievements of our great scientists, researchers, engineers , industry experts and exchange knowledge on cutting-edge technologies and Innovations happeing across various industries to build great nation and great world. I congratulate the IFERP for inspiring the younger generation by organizing world class conferences in the Institutions in India and abroad.

In today's fast paced world, technology is evolving more rapidly than our imagination . Emerging technologies like IOT (Internet of Things) , AI (Artifitial intelligence) , ML (Machine Learning) , DL (Deep Learning) , mobile 5G , AR(Augmented Reality) , VR(Virtual Reality) , Blockchain and automations going to play vital role in major transformations across the industries.

Our great scientists dream about doing the great things and Engineers ensure them . Without Engineering and Technology evolutions we can't even think about getting so modernized world . What we design, invent, innovate ,create and build today, will be the engineering heritage of tomorrow. It's important that we get it right.

I would like to congratulate 'Sri Sairam College of Engineering (SSCE)' and 'Institute For Engineering Research and Publication (IFERP)' for organizing the conference (I7C - 2019) and helping to build Globally Networked Community of Leaders, Scientists and Professionals.

I extend my best wishes to all the participants and I7C – 2019 team.

Sai Satish Babu .N

Dr. R. Srinivasan

Directorate of Research

SRM University, Chennai, Tamil Nadu

MESSAGE

In this present decade lots of developments have taken place in various areas that are directly very useful to the Engineers, Scientist, Business people and Bureaucrats. This has lead to good interactions with the respective groups through Seminars, Conferences, Workshops, Webinars and the Internet. Particularly better output of the discussions happen mainly through seminars and conferences . AICTE and UGC have made it mandatory that the value rating of the educational institutions is done through the number of conferences held and production of doctorate degrees by every educational institution. In this respect, my sincere observation is that IFERP stands out in conducting International Conferences specifically in educational Institutions in India and abroad that benefits the students and faculty members and ITians.

The remarkable part of IFERP is that the conferences are conducted in latest areas in Science, Engineering, Management, etc. like the one being held in Sai Ram Engineering College, Banglaore in the elegant topic on I7C, viz. International Conference on Chip, Circuitry, Current, Coding, Combustion & composits – 2019

Dr. R. Srinivasan

i7C-19

International Conference on

Chip, Circuitry, Current, Coding, Combustion & Composites

28th – 29th November 2019, Anekal, Bengaluru

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Management Representative

Sri Sairam College of Engineering, Bengaluru

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Professor & Head (CSE)

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Professor & Head (EEE)

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✓ Dr. P.Gangavathi	HOD, Dept. of S & H

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✓ Prof. Shylashree S	Faculty, Dept. of S & H

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✓ Mr. S.C. Swamy	Instructor, Dept. of CSE
✓ Prof. Rajesh Kumar	Faculty, Dept. of MECH
✓ Mr. Mohandas	Transport Incharge
✓ Prof. Raja G.V	Faculty, Dept. of ECE
All Bus Monitors	

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✓ Prof.Halesha H R	Faculty, Dept. of ECE
✓ Mr. Manjunath	Lab Asst, Dept. of EEE
✓ Mr. Madhu Devan	Tutor, Dept. of EEE

PHOTOS & VIDEO

✓ Mr.N.Sabapathy	Instructor, Dept. of CSE
✓ Mr. V.S. Negalurmuth	Instructor, Dept. of CSE
✓ Mr. Ranjith Kumar	Instructor, Dept. of EEE
✓ Mr. Arul Kumar.T	Dept. Assistant of S & H

PRESS REPORT

✓ Prof. Yoganand.	Faculty, Dept. of MECH
✓ Mr. S.C. Swamy	Instructor, Dept. of CSE

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i7C - 2019

International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites

Anekal, Bengaluru

28th – 29th November, 2019

ABSTRACTS

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i7C - 19

Organized by

Sri Sairam College of Engineering, Anekal, Bengaluru
and
Institute For Engineering Research and Publication (IFERP)

Design and Simulation of Local Area Network (LAN)

Abhilash. P Hasankar, Student, S.D.M. College of Engineering & Technology, Dharwad
Nisarga Patil, Student, S.D.M. College of Engineering & Technology, Dharwad
Shambhavi Hiremath, Student, S.D.M. College of Engineering & Technology, Dharwad
Dr. S. V. Viraktamath, Faculty, S.D.M. College of Engineering & Technology, Dharwad

Abstract:--

Nowadays, network is becoming more and more complex and has become extremely important in our present day society. Currently companies depend on the standard functioning of their networks for communication, e-business solutions, organization, industrialization, etc. So in this paper, using Cisco packet tracer tool a LAN (Local Area Network) is designed and simulated. To explain about transfer information between two or more users and by connecting different types of servers.

Keywords:

Design, Simulation, LAN, Switch, Cisco packet tracer, Computer networks.

Power Quality Analysis for Electric Vehicle Charging and its Mitigation Strategies

Abhishek Saxena, Department of Electrical and Electronics Engineering, Amrita School of Engineering, Bengaluru, Amrita Vishwa Vidyapeetham, India
K. Deepa, Department of Electrical and Electronics Engineering, Amrita School of Engineering, Bengaluru, Amrita Vishwa Vidyapeetham, India

Abstract:--
Electric Vehicle charging from gird may lead to power quality issue in the grid due to AC- DC conversion required to charge Electric Vehicle battery. Thus, a proper power quality analysis is required to study the influence of these issues into the grid system. This paper deals with studying the harmonic distortion injected into the grid supply while charging and discharging an Electric Vehicle. An analysis is done with passive and active filters connected on grid side to find the best mitigation strategy applicable to reduce the influence of harmonic distortion on the grid. As a result of this study, it is found that the passive filter is more suitable for a pre-defined load, while D-Statcom is more suitable for dynamic load conditions

Keywords:--
Electric Vehicle (EV), Charging, Discharging, Total Harmonic Distortion (THD)

D2D Communication Security Lightweight Cryptographic Approach: Critical Survey

Ajith Kumar V, Research Scholar, Department of Computer Applications, Regional Research Center, VTU Belguam, India
K Satyanarayan Reddy, Professor Department of ISE,CAMBRIDGE INSTITUTE OF TECHNOLOGY (affiliated to VTU Belgaum), Bangalore

Abstract:--

Outgrowth of wireless mobile communication lead to new revolution. Smart phones are making inroads into socio-economic realms. Today we use smart phones almost like a personal computer. Some important milestones have been witnessed, such as number of fixed line Telephone connection has been surpassed by number of mobile phone connection, Number of connected/IP enabled devices in home surpassed more than one per person. In nutshell, people are living in a connected world, trying to connect unconnected things. Devices are becoming intelligent, smart and connected. Need for Device to Device communication is growing every day. D2D communication is becoming popular in health care, disaster or emergency services, power grid and lot many. Security cannot be undermined as D2D communication is becoming pivotal and impacting larger part of our life. In this paper our focus is on security challenges in D2D communication and explore remediation with lightweight cryptography. In this paper an effort has been made to study various techniques for securing D2D communication. This paper focuses on securing D2D communication using lightweight cryptography algorithms.

Keywords:--

D2D Communication, Federal Information Processing Standard, Lightweight Cryptography, National Institute of Standards and Technology, User Equipment

Efficiency Evaluation of Scheduled Commercial Banks in terms of Lending to Agriculture and Financial Health in Punjab

Amarpreet Kaur, Research Scholar, Lovely professional University Phagwara
Neeru Sidana, Assistant Professor, Amity School of Economics, Amity University, Noida
Surinder Kumar Singla, Assistant Professor and head, DAV College, Bathinda

Abstract:--

The financial institutions aim at extending adequate and timely credit to the farmers to meet the crop production and ancillary activities. The present paper attempts to evaluate the efficiency of scheduled commercial banks in terms of lending volume to agriculture and their financial health in the state of Punjab. The location wise analysis brought out that the rural locations were the fore- runners in providing agricultural credit and meeting the targets of Reserve Bank of India regarding priority sector and agriculture sector lending. In case of both the banks (Punjab National Bank and State Bank of Patiala) more that 90 per cent credit was being diverted to priority sector and more than 85 per cent of the priority sector credit was being provided to agriculture. The rural branches had an edge over the semi-urban and urban branches justifying the first objective of nationalization of banks.

Key words:

Scheduled Commercial Banks, lending volume, efficiency, nationalization

Behavioral Biases of Individual Investors – A systematic Review

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Dr. Uma V.R, Professor, Department of Commerce, Christ (Deemed to be) University, Bangalore

Abstract:--

This study carries out systematic review based upon behavioral biases of individual investors, which is an effective factor regarding investor's investment decision process. Scientific literatures up to 2018 have been reviewed. It includes research articles, journals, research reports and book chapters from different specialized authors. Most suitable keywords as well as terms were taken and each chosen literatures has been assessed for better outcomes and quality enhancement. A general map is made which will show the root map of systematic review using the classification. It also helps to find out the most accepted behavioral biases that will affect the investor's decisions with regard to various investments. End results from the study were incorporated on the basis of various types of behavioral biases. The findings of this study clearly depict systematic classification of various behavioral biases which will impact potential financier's decisions. This study mainly focuses to find out the clear cut classification of various behavioral biases that will affect the various decisions of the investors.

Keywords:

Behavioral Biases, Individual Investors, Investment decisions, Systematic Review

Microstructure and Flexural Strength of B_4C Reinforced Al2030 Alloy Metal Composites

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Saravanan R, Assistant Professor, Department of Mechanical Engineering, UVCE, Bangalore

Abstract:--
In the present investigation synthesis, microstructure and flexural strength of 3 and 6 weight percentages of micro B4C particulate reinforced Al2030 alloy composites has been reported. Al2030 matrix composite containing micro B4C were fabricated by conventional stir casting method. The microstructures of the composites were examined by scanning electron microscopy and EDS. Further, flexural strength of as cast Al2030 alloy and Al2030 – 3 and 6 wt. % of B4C composites were studied. Flexural strength was evaluated as per ASTM standard. Microstructural observation revealed the uniform distribution of particles in the Al2030 alloy matrix and confirmed by EDS analysis. From the analysis, it was found that the flexural strength of composites was increased due to addition of micro B4C particle in the Al2030 alloy matrix.

Keywords:
Al2030 Alloy, B_4C Particles, Stir Casting, Microstructure, Flexural Strength

Digital Clock in Regional Language

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Abstract:--

Our country India speaks many different languages. Many Indians speak languages like Indo-European (74%), the Dravidian (24%), the Austro-Asiatic (Munda) (1.2%), or the Tibeto-Burman (0.6%) families. The Indian Constitution's schedule eight also defines 22 different languages. Indians always prefer to talk regional native language for day today communications. Indian Government also has a plan to include different native languages for official use like a display system at public places for sharing the information with common people. Much of this information is in the form of numbers like flight number at the airport. At many public places like airports and rail way stations, time plays an important role since most of their schedules are based on time. Our project is based on the design of a digital clock to display real time in the native regional language like Marathi language for native regional display applications. This design is simple, cost effective and user friendly and displays digital time in natural language.

Keywords:
Regional language, display, design, clock

Narrowband Spectrum Sensing in Cognitive Radio: Detection Methodologies

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Abstract:--

With the rapid development in the technology, every device connected to the internet and increase in wireless sensing device makes the spectrum more congested. To solve the spectrum scarcity problem Cognitive Radio technology is used. The details about the function of cognitive radio such as spectrum sensing, spectrum management, spectrum decision and spectrum handoff were illustrated in this paper. Cognitive radio senses the spectrum for the presence of idle spectrum and allocates the unused frequency band to the cognitive user. When the secondary user is transmitting the data cognitive radio senses for the unused spectrum. If the primary user wants to access the channel then the cognitive radio allocates the secondary user in the nearby unused frequency band. In this paper we are mainly focusing on narrow band spectrum sensing. Under narrow band spectrum sensing various detection techniques such as Energy detection, Matched filter, Covariance detector, Waveform detector and Cyclo-stationary detection are discussed in detail below. The efficiency of the spectrum sensing can be increased with the cooperative spectrum sensing in which multiple secondary users cooperate in sensing the spectrum.

Keywords:
Cognitive Radio, Spectrum Sensing, Narrowband Spectrum Sensing, Wideband Spectrum Sensing, Cooperative Sensing

Necessity and challenges of Preprocessing in Brain Tumor Detection- a Survey

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Abstract:--

Today medical imaging has become fastest growing technology in the field of medicine. It supports various types of supporting methods such as Computed Tomography (CT Scan), Magnetic Resonance Image (MRI), X-rays etc. This technology helps us to detect abnormalities inside the human body. Uncontrolled growth of mass or cells inside the brain is known as Brain tumor. The main objective of image processing is to detect and diagnose abnormalities inside the human body using images and normally MRI images are used for this purpose due to its high resolution and better quality. Detection of brain tumor using MRI image is a challenging task and it has to go through various phases such as preprocessing, segmentation, feature extraction and classification. This survey paper gives overview of preprocessing phase along with its challenges in detecting a tumor in brain.

Index Terms:--

Image Processing, Brain Tumor, Preprocessing, MRI images, Challenges of Preprocessing, Necessity of Preprocessing. Filters, Noise

Design of a binary classifier using data science to classify smokers and non-smokers using medical history of the patient

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Saumya Chaturvedi, Associate Professor, Department of CSE, Institute of Professional Studies, University of Allahabad
Dr.Nitin Mishra, Data Scientist, GCSS Allahabad

Abstract:--

Smoking is injurious to health. This caption is found on every cigarette packet. But most of the human beings are addicted to this smoking habit despite of this. This research considers the construction of a binary classifier which classifies a dataset into smokers and non-smokers using data science algorithms. A binary classifier is used for this purpose which uses the data science techniques. The binary classifier used is Support vector machine.

An Intelligent and Smart Parking Spot Detection

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Abstract:--

The ultrasonic sensor has high frequency, high sensitivity and high penetrating power therefore it can be used to solve many day to day problems. In this paper, we propose the use of ultrasonic sensors for accurate and reliable detection of vacant spots in a parking lot which will be helpful for the people to park accordingly. Sensors offer an alluring decision for minimal effort and simple to-convey answers for savvy traffic direction frameworks and parking area applications. In the Current parking space, there is no proper vacancy detection system used, it is mostly done manually that is there is a person at the entry and exit points of parking lots. Unfortunately, this type of system fails when the person is not able to guide the people correctly. In this paper we propose a comparatively more efficient way of parking space detection using sensors.

Keywords:

Sensors, Parking Spot, Vehicle, Empty Space.

Optimal Protection Coordination of Overcurrent Relays in DG System with Solid State Fault Current Limiters

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Abstract:--

In order to meet the increase in the power demand, Distributed Generation (DG) system plays a major role. Apart from generation it also faces many technical challenges, loss of harmonic control, voltage regulation and losses and changes in the relay coordination due to differences in short-circuit levels. In a system when a short circuit takes place it leads to severe damage as very high magnitude of fault current will be observed. These high magnitude short circuit fault currents eventually leads to coordination problem of Overcurrent relays. To achieve proper coordination, time settings between the relays are optimized using several optimization techniques.

In present circumstances, occurrence of fault in a system have become high which greatly affect reliability of power system. To avoid discontinuities in the system, optimal relay time settings have to be determined which are associated with the fault current that has to be minimized. Here, in order to limit the transient fault current in the system, solid state fault current limiter (SSFCL) is designed. To determine the optimal relay time settings, a new optimization technique, hybrid PSOGSA is applied.

The reduction in the fault current magnitudes have been observed: without and with SSFCL. Proposed optimization technique has been evaluated by comparing the results for the system with and without DG. The programming is done in MATLAB software and was implemented on 4bus DG system in SIMULINK platform.

Index Terms:--

Distributed Generation (DG), Gravitational Search Algorithm (GSA), Solid State Fault Current Limiter (SSSFCL), Hybrid Particle Swarm Optimization-Gravitational Search Algorithm (PSOGSA).

Role of Building Internal Capabilitiesin Managing Change

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Abstract:--

In recent times,to survive and succeed in the constantly unfolding business environmentit has become crucial for many organizations to build internal capabilities.Previous studies show that by building internal capabilities, organizations and its members can respond to and cope with change more effectively and competently. This paper intends to investigate the role of building internal capabilities in managing change effectively and construct a framework focusing on two elements namely individual capability and organizational capability.

Keyword:

Employee Empowerment; Commitment to Change, Technological Capability, Corporate Governance, Change Management.

High performance analysis of nanoscale InAlN/GaN High Electron Mobility Transistor High Power Millimeter wave Applications

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Abstract:--

The DC and microwave characteristics of $L_g = 20\ nm$ gate length depletion mode (D-mode) $InAlN/GaN$ High electron mobility transistor ($HEMT$) on SiC substrate with heavily doped source and drain region have investigated using Synopsys TCAD tool. The device having the features of recessed T - gate structure, $InGaN$ back barrier and Al_2O_3 passivated device surface. The proposed $HEMT$ exhibits a peak drain current density of 3 $[A/mm]$, transconductance g_m of 1600 $[mS/mm]$, current gain cut-off frequency f_t of $455\ GHz$ and power gain cut-off frequency f_{max} of $445\ GHz$. At room temperature the measured carrier mobility(μ) , sheet charge carrier density (n_s) and breakdown voltage are 1580 ($cm^2/V-s$), $1.9\ X10^{13}$ (Cm^{-2}) and $10.7\ V$ respectively. The superlatives of the proposed $HEMTs$ are bewitching competitor for future sub-millimeter wave high power $RF\ VLSI$ circuit applications.

Index Terms: –

HEMT, back-barrier, Recessed gate, cut-off frequency and short channel effects.

A survey of Fog and Cloud Computing based on Internet of Things and Healthcare Solutions

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Abstract:--
The quick advancement of the Internet of Things (IoT) innovation as of late has bolstered associations of various keen things alongside sensors and set up consistent information trade between them, so it prompts a stringy necessity for information examination and information stockpiling stage, for example, distributed computing and mist figuring. In current period of shrewd and green empowering innovations makes keen city and its applications feasible. Empowering access to top notch medicinal services to anybody, from anyplace are the primary focal points of the IoT driven e-wellbeing frameworks. Expanding quantities of restorative gadgets and sensors and day in and day out observing of wellbeing parameters, thusly lead to huge amounts and assortments of information. Having at the top of the priority list the measures of produced information and significance of on-time conclusion and basic leadership just as a hugeness of quick responses for a situation of identified variations from the norm, transmitting all information to the Cloud for investigation may not be fitting. Therefore, executing a Fog registering, which acknowledges smaller than normal expository handling focuses at the edge of the system, shows up as a superior methodology. This paper breaks down the habits and advantages of executing Fog registering in the IoT-driven e-wellbeing frameworks. It is normal that the IoT and Fog figuring together will reform human services like nothing else previously.

Keywords:
IoT, Smart Application, Sensors, Fog Computing, Cloud Computing.

Attendance Monitoring System

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Abstract:--
The "Attendance Monitoring System" is designed to develop a student attendance system that includes a convenient attendance module along with an android app that can effectively manage student attendance at different institutes. Upon identification of the participant, attendance is marked. Fingerprint recognition technology is used to recognise students. It is assumed that fingerprints are the fastest and best method of biometric identification. They are safe to use, unique to each person and in one's lifetime they don't change. This attendance management system is used for keeping the record of students in an organized organization such as school, college, universities, etc. This application maintains a database which has the details of the students such as their name, unique id, branch, semester etc. Once the attendance is calculated for a specific period of time and if the attendance is found to be less than a desired level then a corresponding email will be dropped to the parents or guardians of the student regarding the low attendance of the student. This fingerprint matching helps in avoiding proxy attendance by others. This would also improve the accuracy of attendance records as it will save both students and teachers valuable time and even remove all roll calling problems. The extra workload on teachers will be reduce using proposed system as it is also possible to make a list of students whose attendance falls below a predefined percentage using a mobile application itself.

Index Terms -
Biometric, fingerprint recognition, proxy prevention, Student attendance system, application

Microstructure and Mechanical Characterization of B4C and Rice Husk Ash Particulates Reinforced ADC12 Alloy Hybrid Composites

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Abstract:--

Metal matrix composites are considered as advanced materials in the field of automotive, marine and several industrial applications. In the present work investigations have been made on effect of dual particulates addition on the mechanical behaviour of ADC12 alloy. Boron carbide (B_4C) and rice husk ash (RHA) particulates were used as the reinforcements in the ADC12 alloy base matrix. Hybrid composites were prepared by using liquid melt method, keeping 5 wt. % of B_4C reinforcement constant and varying rice husk ash particles in steps of 3 and 6 wt. % in the ADC12 alloy. Samples were tested for microstructural characterization by using scanning electron microscope and energy dispersive spectroscope. Mechanical behaviour like hardness, ultimate tensile strength, yield strength, percentage elongation and compression strength were evaluated as per ASTM standards. Scanning electron micro photographs revealed the uniform distribution of B_4C and RHA particulates in the ADC12 alloy and these particles were confirmed by EDS analysis. Further, hardness, tensile and compression properties of base matrix ADC12 alloy was enhanced with the addition of B_4C and RHA particulates. Ductility of ADC12 alloy decreased after the incorporation of B_4C and RHA particles.

Keywords:
ADC12 Alloy, Boron Carbide, Rice Husk Ash, Stir Casting, Microstructure, Mechanical Properties

A Review of Formal Verification Methodologies for HDL Designs

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Abstract:--
HDLs can be used to design and describe the digital system layouts from flip-flop memory to complex communications interface protocols. The HDL designs can be described the operations and structures in gate level and Register Transfer level. This paper reviews the HDL design verification concepts and its conditions, general verification methods and also compares the basic verification procedure. It briefly describes and discusses their advantages and disadvantages. In this paper, we will discuss in detail about different verification methods for HDL designs.

Keywords-
HDL design, Formal Verification, Logic Simulaion.

Performance Comparison of Conventional Neural Networks and Deep Learning Network for Cervical Cancer Diagnosis

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Abstract:--

Cervical cancer is the fourth-most common cause for death from cancer in women. Efforts are being made to develop more efficient techniques for the detection of cancer at the initial stage. Conventional methods require expert pathologists to examine the biopsy slide and classify it. In this regard few concerns have risen such as the deficiency of expert pathologists, lack of technical support to doctors and also lack of awareness among women especially in rural areas. Hence there is a requirement for an effective and accurate system that detects cervical cancer which can be used by health worker to detect cancer at initial stage (as a part of basic health check-up). This paper describes and compares two techniques for the cervical cancer diagnosis. The first method involves extraction of key features from complex cytology images using image processing algorithm followed by a neural network classifier with back propagation algorithm using MATLAB tool. The major challenge faced in this method is extracting the key features from complex images with overlapping cells, which is further used by neural network for classification. The other method is based on deep learning that uses inception neural network with tensor flow. A comparative analysis is presented for the same image database which is created with a Bangalore based pathology laboratory. The database is of 460 images of which 197 images are cancerous and 263 are non-cancerous images. The analysis proved that deep learning method was able to provide better classification results.

Index Terms—

Image Processing, Back Propagation neural networks, Convolution Neural Networks, Inception V3, Tensor flow

A Predictive Analysis of Communication Protocols on Various Transmission Media Using NS2

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Abstract:--
The tremendous increase in demands of the people has resulted in the advancement of technology day by day. A technology can be accepted and sustained only if it is proved to have the best performance. In this current era, any technology to be consider will have its main portion as communication. Wired and wireless networks are the efficient trend setting technologies in communication. This paper revolves around the predictive framework on the network survivability and its function with respect to spectral analysis of these transmission media using NS2. It also highlights on which medium is highly efficient comparatively.

Keywords :—
wired and wireless network, Network function, Network survivability, NS2

Object Detection Techniques using Deep Learning: A Survey for Real-Time Applications

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Abstract:--

Technologies in the field of autonomous vehicles (AV) has seen great evolution in recent years. Many automakers are actively attempting to embed advanced technologies into their products, and it's testing at real world scenarios. This field of Autonomous Vehicles can arguably be said to be one of the most daunting topics of today in the field of Intelligent Transportation System (ITS), in particular the aspects like reliability, security, etc and as well as pushing forward for the world's transition towards a highly sustainable future. The sensor technologies of today, however, have several drawbacks; wherein there are high levels of complexity and set-up costs likewise. Thus, this paper aims to accomplish the objective of object detection using only Computer Vision, and specifically for real-time purposes. Thus, this paper aims to explore and compare all the available deep learning based object detection algorithms and arrive at the best model for real-time applications.

Keywords:
Object detection, bounding boxes, image classification, real-time detection.

Adaptive Dynamic Data Replication with Load-balancing in Distributed Systems

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Abstract:--

In heterogeneous data processing a set of processors, with possibly different storage and processing capacities are networked to satisfy the user requirements. The network is scalable and distributed. When a user request for an item of data is received, it needs to be serviced with a low access latency and high availability. Data replication is one of the techniques used by the network to to achieve high availability, reliability and fault tolerance. Replication involves storing multiple copies of the data being stored at different locations. How many copies to keep is the replication factor, and where to keep is the replica placement issue, and when to delete unnecessary copies is replica eviction. This paper deals with the issue of determining the replication factor based on the popularity (or request rate) of the particular data. Replicas are placed based on the user request patterns. We have proposed a dynamic adaptive data replication scheme to place the data items in different locations based on user access pattern, request rate and storage and processing capacities. The proposed data replication scheme maximizes the availability, reliability and minimizes the access latency. Thus the proposed adaptive dynamic replication strategy improves the overall system performance and dynamically balances the load on addition and/or deletion of the nodes in the system. We have evaluated and compared the proposed replication method with existing data replication strategies. The simulation result shows that the proposed strategy results in better performance of the distributed system.

Index Terms

Replication, Replica eviction, Replica factor.

SNR Vs PER Performance of IEEE 802.11a for Different Wireless Environment over the Rayleigh Channel

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Abstract:--

The IEEE 802.11a is wireless LAN standard used for indoor communication which provides the data rate from 6 Mbps to 54 Mbps. It uses adaptive modulation scheme (AMS). Multipath Rayligh fading channel is used in the model.In this paper the performance of this standard is evaluated in WLAN environment under 3 different fading modes that is dispersive fading mode ,flat fading mode and no fading mode.The parameters which we measure are PER,BER and bit rate for mode 5,6,7,8.The main purpose of this paper is to understand and find out the main causes for fading of transmitted signal over the channel path.

Index Terms-

IEEE802.11a,AMS,SNR,BER,OFDM

Analysis on Devanagari Text Generation by Using Machine Learning Techniques

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Abstract:--

Many Authors are developed different methods for recognition of the Devanagari script. The existing method is processing to recognize the Devanagari script which is discussed with notable performances. Generally, the recognition process mainly consists of three steps pre-processing, extraction of feature and finally classification. For character recognition different algorithm were being developed with different advances which include neural network algorithm (NNA), pattern matching algorithm (PMA), structural algorithm (SA), support vector machine algorithm (SVMA), statistical algorithm, hidden Markov model (HMM) and template matching algorithm(TMA). In template matching algorithm only the typewritten characters can be recognized. But the other algorithm like neural network algorithm (NNA), structural algorithm (SA), and support vector machine (SVM) can recognize both handwritten and typewritten Every algorithm contains both advantages and disadvantages. The main motivation of this thesis work is to overcome the above mention the drawbacks.

Keyword:

Handwriting recognition, CNN-RNN network, Data augmentation, Image pre-processing, Optical Character Recognition, Artificial Intelligence, Deep Neural Network, Deep Learning, Devanagari Script

A Novel Approach for Privacy-Preserving and Fully Decentralized Storage System on Block chain

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Abstract:--

With the block chain receiving extensive attention in recent years, many storage schemes based on the block chain have been proposed as alternative mean so cloud storage for data outsourcing. However, the conventional access control methods in the current sharing schemes require either individual permission granting via symmetric keys or a trusted central attribute authority for ciphertext-policy attribute-based encryption (CPABE). In this paper, we propose a fully decentralized data storage and sharing system on a blockchain by using multi-authority CP-ABE and decentralized multi-authority attribute-based signatures (DMA-ABSs). The public ledger of the blockchain provides immutable logs of data address pointers, access policies, attribute public keys and data queries. In addition, data consumers' attributes are publicly verifiable through the DMA-ABS scheme without revealing more private information. Finally, the combination of the multi-authority CPABE with the blockchain guarantees the integrity, confidentiality, and accessibility of the data without the need for trusted third parties, such as a central authority or a data centre.

Keywords:
Privacy, Block Chain, Access Control, Cp-Abe, Attribute-Based Signature.

Application for OCR & Navigation Assistance for Blind

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Abstract:--

Visually impairment and illiterate, or have a learning disability is one of the biggest drawbacks for humanity, especially in this day and age when information and people is interconnected a lot by text messages (electronic and paper based) rather than talking. There is a need for convenient text reader that is reasonable and readily available to the Blind Community. The work in this research is images are converted into audio output. It is mainly used in the field of research in Character Recognition and Product Recognition, AI and Computer Vision. This device consists of three modules, image processing for text detection, object detection and convert detected things to voice. And then assisting the blind people to navigate by using the object detection API recognizing the objects and spelling it to the user. Button Camera/ Smart Phone Camera are designed to help Visually impaired in Navigation.

Keywords-

OCR, TensorFlow, Tesseract, pyttsx.

CCTV Based Attendance System

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Abstract:--

The administration of the participation can be an incredible weight on the educators on the off chance that it is finished by hand. To determine this issue, savvy and auto participation the board framework is being used. In any case, validation is a significant issue in this framework. The brilliant participation framework is commonly executed with the assistance of biometrics. Face acknowledgment is one of the biometric techniques to improve this framework. Being a prime component of biometric check, facial acknowledgment is being utilized colossally in a few such applications, similar to video observing and CCTV film framework, a connection between PC and people and access frameworks present inside and organize security. By using this structure, the issue of intermediaries and understudies being stamped present despite the fact that they are not physically present can without much of a stretch be settled. The fundamental usage steps utilized in this sort of framework are face identification and perceiving the recognized face. This paper proposes a model for executing a computerized participation the executive's framework for understudies of a class by utilizing face acknowledgment strategy, by utilizing Eigenface values, Principle Component Analysis (PCA) and Convolutional Neural Network (CNN). After these, the association of perceived faces should be possible by contrasting and the database containing understudy's appearances. This model will be a fruitful system to deal with the participation and records of understudies.

Key words:

Biometrics, Machine learning, Principle Components Analysis (PCA), Convolution Neural Network (CNN).

Contact-less Pulsation Detection and Cardiopulmonary Modeling

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Abstract:--

This project presents a method for contactless Pulsation detection. Normally, heartbeat is measured using Doppler theory, in which an objective with a Quasi-occasional development mirror the transmitted sign with its stage tweaked by time differing position of the objective. This method has low accuracy when compared to new methods and it requires computational devices which is of high cost. In the proposed system heartbeat is detected using a VNA and the microwave framework is treated for the location of the heartbeat signal. For this method to be efficient the detection must occur at a distance of 1 meter from the person. Based on certain frequencies and power, the heartbeat signals are detected. The power level ranges between 0 and -27 dBm and frequency is given as 2.4, 5.8, 10, 16 and 60 Ghz for performing of the measurements. A model speaking to the cardiopulmonary movement is exhibited dependent on the estimations performed for both breath and heartbeat.

Keywords:--

Vector Network Analyzer

Deep Air Learning: Feature Analysis of Fine Grained Air Quality

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Abstract:--

The interpolation, prediction, and feature analysis of fine-grained air a quality area unit has three essential focuses inside the space of urban air figuring. The responses for those subjects will give obliging data to help tainting the administrators, and hence make charming party and concentrated impacts. A huge part of the general work comprehends the three issues severally by absolutely different models. During this paper, we will in general propose a general and convincing approach to manage unravel the three issues in a solitary model known as the Deep Air Learning (DAL). The most course of action of dekalitre lies in embeddings feature choice and semi-oversaw learning in a couple of layers of the significant learning framework. The foreseen philosophy utilizes information concerning the unlabeled spatio-transient data to help the show of the addition and besides the estimate, and performs incorporate choice and association examination to reveal the most relevant decisions to the assortment of the air quality. we will in general regard our system with heightened tests reinforced real information sources got. Tests show that dekalitre is superior to anything the friend models from the continuous composing once finding the subjects of presentation, desire, and have assessment of fine-grabbed air quality.

Keywords:

Air pollution, DAL, Quality

Efficient Object Detection and Match Using Feature Classification

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Sonal R, Dept. Computer Science and Engineering, Sri Sairam College of Engineering

Abstract:--

This paper presents a new approach for efficient object detection and matching in images and videos. We propose a stage based on a classification scheme that classifies the extracted features in new images into object features and non-object features. This binary classification scheme has turned out to be an efficient tool that can be used for object detection and matching

Highly-Accurate Machine Fault Diagnosis Using Deep Transfer Learning

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Abstract:--

We develop a novel deep learning framework to achieve highly-accurate machine fault diagnosis using transfer learning to enable and accelerate the training of deep neural network. Compared with existing methods, the proposed method is faster to train and more accurate. First, original sensor data are converted to images by conducting a Wavelet transformation to obtain time-frequency distributions. Next, a pre-trained network is used to extract lower level features. The labeledtime-frequency images are then used to fine-tune the higher-levels of the neural network architecture. This paper creates a machine fault diagnosis pipeline and experiments are carried out to verify the effectiveness and generalization of the pipeline on three main mechanical datasets including induction motors, gearboxes, and bearings with sizes of 6,000, 9,000, and 5,000 time series samples, respectively. We achieve state-of-the-art results on each dataset, with most datasets showing test accuracy near 100%, and in the gearbox dataset, we achieve significant improvement from 94.8% to 99.64%. We created a repository including these datasets located at mlmechanics.ics.uci.edu.

Index Terms
Fault diagnosis, deep learning, transfer learning, convolutional neural network, pre-trained model, machine health monitoring

Intelligent Pillbox: Automatic and Programmable Assistive Technology Device

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Abstract:--

There can be a lot of individuals out there who need constant help may it be our elderly people, family members, the ones who have special needs. These people apparently need the kind of care which most busy family members cannot provide. Some people may forget to take the medicines at the correct time and can forget the medicines which they have to take. So in order to help them with this liability we have developed this project. The people are provided a Pill box on which there will be a display which notifies the people about the medicine. Along with this we can alert them with an alarm. So that even if the person is sleeping or busy with some work the alarm helps in alerting him. To confirm that the person has taken that medicine or not we can put one IR Sensor at the opening end of the pillbox. So when the person tries to open the box the IR Sensor Recognized and the alarm will be off only. By this data we can tell that the person has taken the medicine. It comes with one more feature that when the person is taken the medicine intimate to the related persons by using GSM Technology. By this system helps patients to take the required medicine in the right quantity at the right time. . It will read out the medicine name and the dose of the medicine. Still if they fail in taking tablet the alert will be sent to the next contact person so that he is intimated about the situation. If the pills are about to get over, the notification is sent to appropriate person so that he can get the pills before it get over.

L – HANDS
"Hand Gesture Based Smart Gloves"

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Abstract:--

Individuals with talk impedance imagine that its difficult to give in an overall population where most by far of the all inclusive community don't understand signal based correspondence. The idea proposed in this paper is a sharp glove which can change over correspondence by means of motions to talk yield. The glove is implanted with flex sensors and a mem sensor. A tale method for State Estimation has been created to follow the development of turn in three dimensional spaces. The model was gone after for its reachability in changing Indian Sign Language to voice yield. In spite of the way that the glove is normal for correspondence through marking to talk change. Counterfeit mouth is built up for the imbecilic individuals to defeat the multifaceted nature. It takes a shot at movement sensor, where the sensor responds for each activity by the client. Database stores the messages and furthermore every one of the formats. In the constant the format database is nourished into a microcontroller and the movement sensor is fixed in their grasp. For each activity the movement sensors get quickened and give the sign to the microcontroller. The microcontroller matches the movement with the database and produces the discourse signal. The fake mouth helps in recovering the information from the database and the imbecilic individuals will talk like an ordinary individual. The speakers are the yield gadget wherein the framework squares which translates the coordinated motions as a book to discourse transformation. The Embedded equipment with Flex sensor and small scale sensors are set which helps in perusing the motions performed by the client.

Index terms:--

Gestures : visible bodily actions are used to communicate, Artificialmouth : speaker, microcontroller : control device, voice yield : resisting to speak.

Medical Imaging using Machine Learning and Deep Learning Algorithms

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Abstract:--

Machine learning and deep learning algorithms are rapidly growing in analysis of medical image process. In Current situation, many ways or developed for the enrichment of medical imaging applications. However mistreatment these algorithms to discover the errors in sickness diagnostic systems which can lead to extraordinarily smart medical dealings. Machine learning and deep learning algorithms are necessary ways in which in medical imaging to predict the symptoms and stages of sickness. Deep learning techniques, in specific complication networks, have promptly developed a strategy of special for work medical pictures. It uses the supervised or unsupervised algorithms mistreatment some specific customary dataset to point the predictions. we have a tendency to survey image classification, object detection, pattern recognition, reasoning etc. ideas in medical imaging. These ar wont to improve the accuracy by extracting the meaningful patterns for the precise sickness in medical imaging. These ways in which additionally embody the choice creating procedure. the most aim of this survey is to spotlight the machine learning and deep learning techniques utilized in medical pictures. we have a tendency to meant to produce a top level view for researchers to understand the present techniques distributed for medical imaging, highlight the benefits and disadvantages of those algorithms, and to debate the longer term directions. For the study of multi-dimensional medical knowledge, machine and deep learning give a commendable technique for creation of classification and automatic deciding. This paper provides a survey of medical imaging within the machine and deep learning ways to research distinctive diseases. It carries thought regarding the suite of those algorithms which might be used for the investigation of diseases and automatic decision- creating.

Index Terms-
Medical imaging; Machine learning; Deep learning; Image enhancement; Information retrieval;

Mood Detector

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Abstract:--

Understanding human thoughts since times always remained a mysterious challenge for the scientific discipline as is the circumstance with the emotions of human beings. The numerous techniques of Emotion detection has already been discovered, one among which we here have discovered is the detection of emotion which is here done using IoT and Machine learning technique. This paper is being proposed to present the design and implementation of a Mood Detector application, which has been designed to detect the mood and emotional state of a person by examining the triad physical constraints (temperature, pulsate, motion and skin electro-conductance) by using a machine learning algorithm which is trained with data provided by the mood detector application developer. This application has been tested redundantly unless and until the results generated by the learning algorithm have been validated to 100%, thus affirming that the machine learning algorithms provides the accurate results. This application also coordinates a music recommender framework, which recommends the user to listen to the vague playlists, which has been designed to the recognized mood. In this paper, we design a probabilistic data collection mechanism and on the collected data we perform a correspondence analysis. Finally we design a statistical model to anticipate the human temperament and recommend a music playlist in accordance with their current temperament.

Smart Green House using IOT and Cloud Computing

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Abstract:--

Smart Green House android app is succeed to observe and managing the microclimatic environment in side a Green House. From the green house easily get soil moisture, humidity and temperature sensor value to android app , according to sensors values and we set predefined threshold values for each sensor ,depending on sensor readings we are going to control using water sprayer ,cooling fan, roof to pand focus light and just press the button in android app we can make on/off motors and it also has datasheet of all horticulture plantation and season wise precaution material for monitoring and controlling. The intention of this project is to design a simple, easy to install,userfriendly to monitor and record the values of temperature, humidity, soil-moisture and sunlight of the natural environment that are continuously modified and controlled in order optimize them to achieve maximum plant growth and yield. The result shows that the situation specified in sensor‘s database and system in actually is proper. The achieved test result concludes that the system is working properly.

The Ingenious and Adept Techniques of Teaching and Learning Vocabulary

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Abstract:--

The ingenious and effective vocabulary teaching and learning techniques are incessantly espoused and established on the learner's standard of expertise. Nevertheless, the precise exploration deliberated in connection with these techniques is found relatively inadequate. Accordingly, these probe emphases on discovering and discerning the utmost competent, collective and comprehensive practices of classroom vocabulary teaching and learning techniques. Dialogues with an assorted English Subject Experts was carried out efficaciously to determine the techniques involved and applied in the vocabulary teaching and learning approaches. Out of all the obtainable techniques, only a couple of them is found being utilized and put into practice while teaching and Learning Vocabulary to the students in the classrooms. The discoveries depicted that the professionals are found expending these techniques in an assorted approach to facilitate the process of teaching and learning vocabulary. Lastly, the information impulses the inevitability to comprise the utmost decisive, enriched, adept and novel techniques to be espoused into the process of teaching and learning vocabulary for the impending studies. Regardless of the infinite magnitude of the English vocabulary, it has been appraised that only around 2400 great prevalence of word families, that are found in Browne, Culligan, and Phillips (2013) New General Service List (NGSL), out of all only 92% of most general English manuscripts. Assorted appraisals depict that every word we come across ought to be from these six (Saragi, Nation, & Meister, 1978; Rott, 1999) to 20 times (Herman, Anderson, Pearson, & Nagy, 1987) for a learner to procure it.

Keywords:

Techniques, Vocabulary, Vocabulary Teaching and Learning.

Home Automation Using IoT

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Abstract:--

Internet of Things is the concept of basically connecting any device to the internet. IOT is more than smart homes and connected appliances, however, it scales up to include smart cities with connected sensors. In today's world we're having automation of every little electrical device in our homes, world is heading towards the automation. In this project we are using PIR sensors IR busters, to make the home appliances to work automatically either by driving motors or by using auto switching circuits. The IR buster is a device which can able to sense over 360 degree. The appliances in the home where connected to either PIR sensor or IR buster to sense the motion. In which each buster is connected to the common Node MCU with enabled wifi module and it is connected to the cloud. The will store the data about the appliances. The data's like how long the appliance is working, how much power is consumed, when it get activates ,etc..

Hevea Brasiliensis Leaf Disease Detection Using Image Processing

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Abstract:--
Indian economy relies on Agriculture which is the back bone of India. Indian Agricultural sector accounts for 18% of India's GDP and employment to 50% of country workforce. Both quality and quantity of agricultural products are equally important. The conventional human naked eye quality inspection is not significant for large members of leaves as it is unpredictable and inconsistent. Disease identification is the key for decreasing and preventing plant illnesses. Health monitoring and contamination identification on plant is fundamental for feasible agriculture. It is hard to display the plant infections physically because it requires huge measure of labor, expertize inside the plant ailments, and furthermore require the over the pinnacle managing time. Thus the solution overcoming these kind of constraints is image processing. The process of image processing includes acquisition of photo, pre- processing of photo, segmentation of image, function extraction and class. To overcome digital image processing technoques has been implied. This paper proposed technique for evaluation and detection of plant leaf disorder using digital image processing. This paper proposes k clustering algorithm for the detection of the diseases. The major of the leaf diseases is mainly caused in hevea brasiliensis are Birds' eye spot, collectotrichum leaf disease and collectotrium leaf disease. This way of detection have immense potential to classify the diseased leaf among healthy leaves.

Microstructure and Flexural Strength of B4C Reinforced Al2030 Alloy Metal Composites

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Abstract:--

In the present investigation synthesis, microstructure and flexural strength of 3 and 6 weight percentages of micro B_4C particulate reinforced Al2030 alloy composites has been reported. Al2030 matrix composite containing micro B_4C were fabricated by conventional stir casting method. The microstructures of the composites were examined by scanning electron microscopy and EDS. Further, flexural strength of as cast Al2030 alloy and Al2030 – 3 and 6 wt. % of B_4C composites were studied. Flexural strength was evaluated as per ASTM standard. Microstructural observation revealed the uniform distribution of particles in the Al2030 alloy matrix and confirmed by EDS analysis. From the analysis, it was found that the flexural strength of composites was increased due to addition of micro B_4C particle in the Al2030 alloy matrix.

Keywords:

Al2030 Alloy, B_4C Particles, Stir Casting, Microstructure, Flexural Strength

Ecofriendly Concentrated Photovoltaic Cell (CPV) Drinking Water and Lighting System

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Abstract:--

Majority of rural area people of Telangana state suffers from fluorosis, due to excessive presences of fluoride in the ground water. In spite of continuous efforts by the government, external support agencies, NGOs and private enterprises the problem remains unsolved. Poor supply of electricity and improper desalination water plants are the expected root causes of this situation. District fluoride monitoring center (DFMC) says that no new cases have been reported in the last few years. However, a large number of people are affected by dental, skeletal and non-skeletal fluorosis, making it one of the worst health hazard in the country. Most of the area ground water has more than 1.5 mg/L fluoride making it unfit for drinking. Though Government has extended Bhagirada Project to this village, yet the TDS levels are high. The Solar lightning system generally consists of Converters and AC power based fluorescent /LED lamps, which work on low efficiency, low Power Factor and consume nearly thrice their power rating due to presence of the choke and complex electronic circuitry. More over involving converter make the system less efficient, bulky and costly. This scenario is prevailed in the many villages of the Telangana and India as well.

The innovative solution is of twofold as it supplies electricity and provide safe drinking water to the village.

The solar DC power harvested through Concentrated Photovoltaic Cell (CPV) will be directly fed to custom-made LED Lights. These LED Lights works in concussion with Motion sensors for reducing power consumption during non-peak hours. The innovative CPV technology with 36% efficiency will make most sun power to be harvested in minimum place.

The by-product of CPV system is high heat dissipation, which is supposed to be cooled by forced water system and this output water can be used to for drinking purpose. The high heat dissipation may damage the cell and hence the cooling system has to be arranged and here we propose the water cooling system so that this water will be of desalinated stage and used for drinking purpose.

All these systems are interconnected with an inexpensive ESP-32 microcontroller for monitoring and control. The new ESP32 with inbuilt SM900 module works without Wi-Fi through cellular connection there by reducing the dependency on the Wi-Fi. The proposed system if implemented will make easy troubleshooting, monitoring and control.

Keywords:—

Concentrated Photovoltaic Cell (CPV), desalination water plants, custom-made LED Lights , ESP-32 microcontroller, Motion sensors.

Taxonomy of Multiple Sclerosis MR images using Different Techniques: A Survey

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Dr.Rajashekar J S, Professor & Head, Dept. of IT,DSCE, Bangalore

Abstract:--

This survey paper based on Taxonomy of Multiple Sclerosis MR images using Deep Learning Techniques. MR imageshave some limitations that make the diagnosis of MS disease difficult and so in this survey paper we have tried to refer and compare various Deep Learning Techniques to overcome the same. Normally MR images can provide significantdata in order to find out the most operative therapeutic strategy for MS patients and therefore healthier treatment. Survey and review based on data of Survey, diversemethodsneeds to be employed for the Sclerosis Patient classification from the brain images. Further, based on survey information; need to be addressed the challenges that ancurrenttaxonomymethods pose so as to advance an operativemethod for the classification of Sclerosis Patients.

Analysis Survey of Diabetes Mellitus for Early Prediction and Automatic Detection of Exudates for Diabetic Retinopathy

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Abstract:--

More than 42 Cr new diabetes Patients added worldwide as per the World Health Association Annual Report Statistics [3, 7]. The World Health Organization (WHO) reports that there is measurable hike in the number of individual Diabetes cases in the various regions and sectors of WHO Survey [9]. Because of the high level of stress, irrespective of the Gender and income, the Death Toll increasing every year. In this paper, hypothetical analysis-based Survey done of diabetes mellitus for early prediction and Automatic Detection of Exudates for Diabetic Retinopathy [8, 17]. The Hypothetical analysis results indicate the severances of the issue and significant importance of the need for early prediction and Automatic Detection [13]. With hypothetical analysis across various models we proposed to give a vision into numerous machine learning models and its prognostic accuracy in relations of the recital, accuracy improvement from 2+% to 12+%.

Keywords:

Exudates, Diabetic Retinopathy

Generation of Electricity from Treadmill using Piezoelectric Transducers

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Abstract:--

Electricity has been an essential lifeline for the sustenance and well-being of human beings. The modern lifestyle of humans has a greater dependency on electronic devices and gadgets. Thus, there is a greater demand for electrical power for various operations. Also, due to the population growth around the globe, energy demand is increasing exponentially. In compensating the increasing energy demand, there is a huge burden on non-renewable sources of energy like coal leading to environmental pollution. Recent advances have allowed practical applications of various power harvesting systems to meet energy demand. One of the most important strategies to reduce the environmental impact is to use clean and renewable energy instead of fossil fuels. Energy from solar power, wind, hydroelectric, geothermal, marine energy and piezoelectricity are few examples. The power output from the piezos not only depends upon the weight but, the impact made by the individual also matters.

Keywords:
Piezoelectric transdusers

Elderly Parent Health Monitoring and Tracking Device

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Abstract:--

With the increase in population of elderly is increasing, atomic family, people running towards career and life style towards higher end, these all leads elderly parents to live alone, all these factors generate immediate need of device or system, which can track and monitor the elderly parent. For elderly parent in solitude it dangerous, also there cognitive ability is decreasing as it is aging factor. The global life expectancy is globally increased as technology is advancing, the leads to create environment which is friendly with these age group and to develop products for taking care if health and safety or elderly parents.

In this research paper, XG intelligent monitoring system based on IOT to monitor the elderly parents were they are at home or outside. This proposed system is designed with advanced features that would allow elderly parents to live healthy and safely despite being alone at home. These system can track the elderly person, were he is, heartbeat monitoring also proposed system can detect the falling status and shivering condition of elderly parents.

Keywords:

Sensors, XC, IOT, elderly, heartbeat , shivering, Safety

Financial Risk Tolerance: Assessing the Equity Mutual Fund Schemes in India

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Abstract:--

The mutual fund market offers a variety of mutual fund schemes catering to the needs of investors depending on their ability to take risk and understanding the risk-return relationship. This study examined the performance of equity mutual fund schemes in India in relation to their respective benchmarks for a period of 5 years employing various measures such as Sharpe ratio and linear regression. Risk adjusted returns are calculated for both market index and mutual funds. The volatility of the mutual funds is analysed using beta coefficient which further helps to determine the risk tolerance of mutual funds.

Keywords

Sharpe ratio, Beta, Risk Tolerance

JEL Classification: G12, G32

Fault Tolerant Real Time Data Migration in Wireless Sensor Networks

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Harish Dayalan, RVCE, Bengaluru.

Abstract:--

In the present scenario of cloud and Internet of Things, accumulation and retrieval of sensor data from wireless sensor networks have exhibited multiple challenges in terms of technology. In fact, network virtualization in the cloud environment has added more dimensions to these challenges. The three types of cloud services namely Platform as a service (Paas), Infrastructure as a service (Iaas), Software system as a service (Saas) have made it versatile and robust. The real time operating environments such as embedded systems and IOT's, require the transfer of local data to the cloud via routing protocols. Though the wifi services like ESP8266 are prominent in the available approaches of data transfer from the embedded system to cloud, some of the issues related to malfunctioning of the hardwares and failure of sensor devices have remain unanswered. This paper proposes a new approach to migrate the wireless sensor data from the hardware to the cloud with the help of virtual machines associated with the RTOS. The data migration from the sensor to the virtual machine (VM) and thereby to the cloud, is monitored from remote location with help of an android app. This mechanism leads to a fault tolerant technique, which has reduced the loss of data during the transmission as it is recorded in VMs.

Index Terms

Fault tolerance, IOT, Virtual Machine, RTOS, Cloud computing, PSCP protocol.

Smart Design of Electric Vehicle Charging System

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Abstract:--

The proposed layout of a machine is to create and manage Electric Vehicles (EV) charging methods, based on sensible method. Due to the electric strength distribution network problem and shortage of clever meter gadgets, Electric Vehicles charging need to be carried out in a balanced way, considering past experience, weather facts primarily based on facts mining, and simulation tactics. In order to permit information alternate and to help user mobility, it changed into also created cell software to assist the EV driving force on these processes. This proposed Smart Electric Vehicle Charging System makes use of Vehicle-to-Grid (V2G) generation, so that it will join Electric Vehicles and also renewable electricity sources to Smart Grids (SG). This machine also explores the brand new paradigm of Electrical Markets (EM), with deregulation of electricity manufacturing and use, with the intention to gain the nice conditions for commercializing electric strength.

Wireless charging of devices is one of the new rising technologies within the global for the time being. The maximum not unusual methods used in the mean time are wireless strength switch by inductive coupling and resonant coupling. So, this paper is combining that technology to take away the copper cables used for charging the batteries of the Electric Vehicles (EVs). A methodology and principle of operation are devised for wireless electricity switch thru resonant coupling, and a possible layout is modeled accordingly. The resonant coupling technique is used due to excessive performance and large amount of the strength transferred over an extended distance as compared to inductive coupling. Also, to signify its versatility and range of programs, the strength transferred may be used to rate a battery with the useful resource of additional circuitry.

Keywords:

Battery Charging, Electric Vehicle (EV), Electric Vehicle Charging Station, Wireless Power Transfer, Plug-In Electric Vehicle (PEV), Electric Vehicle Supply Equipment (EVSE)

A Review - on Nobal Laurents of India

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Sandhya H S, UG Scholars, Department of Mechanical Engg. Sri Sairam College of Engineering, Bangalore
Amshuman Hebbar, UG Scholars, Department of Mechanical Engg. Sri Sairam College of Engineering, Bangalore

Abstract:--

In the present study, we have collected all Nobel Laurent's of India since 1900 to till date. Prize-winning articles in various fields are highlighted in these articles. We have explored reference information to understand the articles of Indian winners. As per the review the list of the Nobel Laurent's is too big but this study is restricted as born as a Indian citizen and while receiving the award as Indian citizen [1, 2, 3]. An effort is made in the reviewing the Laurent's form 19th century to till date and published in the articles with references.

Application of Nanotechnology in Plug-In Electric Vehicles (PEV)

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Abstract:--

A plug-in electric vehicle (pev)s is any vehicle that can be recharged from an external source of electricity, such as wall sockets, and the electricity stored in the rechargeable battery packs drives or contributes to drive the wheels. PEV is a subset of electric vehicles that includes all-electric, or battery electric vehicles (BEVs), and plug-in hybrid vehicles (PHEVs).Plug-in cars have several benefits compared to conventional internal combustion engine vehicles. They have lower operating and maintenance costs, and produce little or no local air pollution. They reduce dependence on petroleum and may significantly reduce greenhouse gas emissions, depending on the electricity source, as motors are typically much more efficient than ICE. Plug-in hybrids capture most of these benefits when they are operating in all-electric mode.This paper depicts that the use of titanium dioxide nanoparticles in a polymer or more effectively with silver wire immersed in it, make it absorptive enough for efficient solar cell. This solar
cell on a surface and being good transparent to visible light it can be used in any Plug-in Electric Vehicle (PEV) surface or colored body, without making changes in color of the object. This concept can be used in any vehicle to produce a live natural energy resource and hence enhancing its capabilities. This is big positive for the emerging PEV technology and also fulfills the future expectations.

Applications of Differential Equations in Population Growth

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Abstract:--

We cannot have a sustainable planet without stabilizing population. As human population increases, humans demand for resources like water, land, trees, and energy also increases. Unfortunately, the price for all this "increase and demand" is paid by the other endangered plants, animals and natural resources in an increasingly volatile and dangerous climate. Charles Darwin's famous quote "survival of the fittest" which states that individuals will compete (with members of their own or other species) for limited resources. The successful ones are more likely to survive. This necessitates a mathematical model by using differential equations to predict the future population in terms of growth rate and population figures with reasonably virtuous accuracy. The present work deals with applications of differential equations in population growth using exponential and logistic growth models, with which we can study the changes in size of populations through time.

Keywords:

Population growth, Logistic Growth model, Exponential Growth model, Growth rate, Differential equations, Mathematical modelling.

Astrophysics and Astrobiology in Action

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Abstract:--
This paper mainly contains about the technological advancements towards the catastrophic situations like meteor collision. It highlights the history of some famous meteors and meteorites that had been noticed, and are regarded as a remarkable discovery in the history of mankind. Scientific discoveries and inventions have in fact propelled man to get ready to face such a challenge in the mere future. And with his Superior Brain. Man has been able to develop aerospace science and astronomical science in such a way that now humans can go beyond the limit of their own naked eyes .These achievements could possibly bring and end to all sorts of confusion and misery in the upcoming future.

Keywords:--
Astronomy, Astrobiology, Exoplanets, HEC.

Automated Shopping Cart

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Abstract:--

A shopping mall is a form where wide variety of product items is available. This product can be clothes, beverages, books or food any domestic product. The main intention of supermarkets is to provide availability of all the items and save the time of the purchaser but sometimes purchaser gets discontented while waiting in the queue at cash counter and sometimes they get frustrated while balancing the total price of all the products with the budget in the pocket before billing. To swamp these problems, Shopping malls use this technique as a strategy to increase the number of purchasers. In big cities, we can observe an enormous flash at shopping malls on weekends. This becomes even more when there is diversity of offers and discount. Now a day's people buy a variety of items and put them in the trolley. After total buying one should approach counter for billing purpose. By using reader the paymaster prepares the bill which is a tedious process. This results in long queues at the cash counters. This project presents an idea to develop a system in shopping malls to conquer the above problem. When purchaser puts any item in the trolley its details will be recognized automatically, the item name and rate will be displayed on the LCD Screen, thereby the rate gets joined to the final bill. If a purchaser wishes to extract the items from the smart trolley, purchaser can take away the product and the price of that particular item gets subtracted from total amount and the same information passes to the central billing unit via GSM module. Also packing the item in the cart.

Compressed Air Vehicle Using Linear Actuator

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Abstract:--

The latest trend in the automotive industry is to develop light weight, eco- friendly and low-cost vehicle to reduce pollution. The heavy vehicles are known for producing a large amount of harmful gases like CO2, SO2 etc which act as the major source for global warming. When emissions go down the pace of global warming slows. Hence this paper deals with the study of compressed air as a fuel for running a 4- wheeler vehicle where in the compressed air is stored in tank & supplied to the pneumatic linear actuator which intern connected to sprocket of rear wheel of the vehicle.

Design and Fabrication of Firefighting Drone for 5 Kg Payload

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Abstract:--

The first response teams, such as firefighters, are exposing their lives to great risks in order to extinguish a fire. Currently, there is a lack of Unmanned Aerial Vehicles that are being used with the purpose of extinguishing fire. The Unmanned Aerial Vehicle (UAV) is an aircraft without a human pilot on board. Its flight can be controlled autonomously by computers in the vehicle, or by remote control under the direct command of a human. Fires that occur in homes and non-residential buildings as well as fires in wild lands cause plenty of health issues; including death to humans and animals, in addition to great economic losses in structures, equipment and vegetation. By UAV Monitoring, Inspection and stopping the fire by quadcopter drone.

Key words:-

Drones, Firefighting, Payload, fabrication

Design and Fabrication of Groundnut Thresher

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Abstract:--

In India, Agriculture is the backbone. In country like India, groundnut is grown on a small scale by farmer. The major problem in groundnut production in country like India is the lack of groundnut processing machines available to farmers. In the beginning the groundnut pods were separated from its plants by the workers. They simply remove groundnut pods by their hands and separate from the plants. The output got from this method, was very low because it was very time consuming process. It was also a boring work for the worker. Traditional method of separating pods from groundnuts plants by hands. That the traditional method is not a sufficient method for separating the groundnut pods. Due to this manual process, identify some major problem & to over-come this problems some idea or concepts generates.

Energy Protection during Heat treatment of A356 Aluminum Alloy

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Abstract:--

A standard heat treatment for Al-Si alloys consists of solutioning and artificial ageing. T4, T5 and T6 are the commonly used heat treatment methods for aluminum alloys. However, they need more than 4 hour for solutioning process and more than 6 hour for artificial ageing process. Unfortunately it requires long time to be carried out and therefore has significant financial implications. In the present study, solution treatment of A356 Al alloy was carried out in 1 hour and artificial ageing also carried out in 1 hour in three different heat treatment methods namely T4-Solution Treatment – TB Condition, T5-Precipitation (Ageing) – TE Condition and T6-Solution Treatment and Precipitation Hardening – TF Conditions. Finally obtaining almost same strength of materials compared to traditional heat treatment methods. The influence of the heat treatment on the hardness and tensile properties of the alloys along with that of the base alloy was investigated. It is observed that due to spherodization of silica particles T6 treated alloy showed a maximum hardness and strength compared to base alloy, T4 and T5 treated alloys.

Keywords:

A356 Al alloy, Heat treatment, Hardness, material.

IoT Based Low End Automotive Drive Recorder as Blackbox

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Abstract:--

Automotive electronics plays an important role in the automobile industry and essentially addresses the safety and security concerns. The proposed work aims at a cost effective solution to the design and development of an event data recorder called black box which is more or less equivalent to the one that is being used in the aviation sector. The paper deals with the design of the black box that has features equivalent to the data recorder which could be very useful for domestic vehicles to record their parameters. It is also having additional features that could assist in reducing the number of accidents, by analyzing the previous accidents. The system also provides automatic accident alert system which helps in informing the nearest hospital and the traffic authority by providing not only the coordinates of the accident location but also the exact physical address for immediate medical attention which can save numerous lives every day. The system also provides other features like advanced web tracking and reduced overall cost optimization by integrating multiple features. The experimental results shows superior performance compared to the existing methods for accident analysis.

Keywords:--

Black box, Automotive electronics, accident analysis, web tracking, data recorder.

Mechanical Behavioural & Friction Stir Welding Studies on Copper Hybrid Metal Matrix Composite

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Abstract:--

Copper is characterized by High electrical, Thermal conductivities and Good Corrosion resistance but has low strength at room and elevated temperatures. Improvement of Mechanical properties is possible by introduction of ceramic particles realized through special manufacturing processes (squeeze or stir casting, spray forming or powder metallurgy techniques). Copper composites are used when high thermal conductivity, high absorption and dissipation of heat, high resistance to thermal fatigue and good frictional wear resistance are required.

Methods to Improve 3d Prints by Reducing Artifacts Caused By Vibration and Noise

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Abstract:--
The paper presents the state-of-the-art improvements in 3D printing technology by introducing state-of-the art laser based measurement and dynamic and static noise and vibration dampening systems.

Keywords—
Measurement, Dynamic, Static, Vibration, Dampening

Multi-Stress analysis of splice joint Panel of the aircraft bottom wing skin by Finite Element Analysis

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Abstract:--

This paper investigates the maximum stress concentrated part of the splice joint of an aircraft bottom wing skin due to tensile loading. Wings are the aerofoils attached to each side of the fuselage to produce lift force. Joints are inevitable in any large structure like an aircraft wing. Splicing is normally used to retain a clean aerodynamic surface of the skin for most of the aircraft structure.This analysis considers the wing box with a bottom skin splice joint. The wing box comprises of two spar beams, three ribs, stiffeners covered with skin plate. In this paper the chord-wise splicing of wing skin is considered for a detailed analysis. The splicing is multi row riveted joint under the action of tensile in plane load due to wing bending. The stress analysis of the joint is carried out to compute the stresses at rivet holes due to By-pass load, bearing load and secondary bending. The splice is optimized to minimize the rivet hole local stress. A finite element analysis is carried out to evaluate the stresses. Analyses were performed by MSC PATRAN and NASTRAN software.

Keywords:

stress analysis, splice joint, wing skin and rivet holes.

Narrowing the Energy Consumption in Home Automation using STM32

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Abstract:--

One of the most important problems in home automation is dedicated to reducing energy consumption. Different methods have been proposed which are mostly aiming for low-costs approaches. This paper offers a low-cost solution based on STM32F407 microcontroller. The solution has been implemented on a house situated in a four-season geographical area. The obtained results are extremely promising, indicating a reducing of the energy consumption with approximately 15%.

Keywords :-

energy consumption, home automation, low- cost, STM32F407 microcontroller.

School bus surveillance and notification system

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Abstract:--

Everywhere around the world, school children's safety has become a major priority for both the parents and also the school administration. Every parent thinks about the safety of his/her kid. Then why not think about the safe transportation facility that could be provided by the schools? The major concerns of both the parents and the administration are about the route that the buses take, student's attendance on the bus, and also the speed that the bus travels with. Another concern that the school administration might face is the usage of fuel by the driver. The proposed system improves the safety of the children along with giving the parents and the administration of peace of mind. This work displays a framework in which it gives a presentation about the monitoring of the bus using a GSM module along with the location of it, the information about the student present on the bus using the RFID Tag, and when in an emergency, the motor is controlled by the relay module, with the help of an ultrasonic sensor the level of fuel can be identified and also the speed of the bus is calculated. These hardware models are connected to one another by the microcontroller and from this information about the student attendance, the speed, the fuel level is shown to the administration with the help of cloud through a Wi-Fi module. In this manner with a wireless module, we can ensure the safety of each and every child present in the bus and also parents and the school authorities can keep a tab on the children and also the driver's behaviour.

Keywords:

RFID, GSM Module, IoT, Safety, School Bus, Sensors

Strength Parameters of Hybrid Fibers with GGBS and Flyash using Concrete

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Abstract:--

This paper was investigated on the feasibility and usage of hybrid fibers on concrete with partial replacement of GGBS and flyash and test its mechanical properties. Medium strength concrete was adopted and M40 grade was fixed. Cubes, Cylinders and prisms were cast and placed for curing and tested on their 28th day. Mechanical properties include Compression, Splitting tension and flexure. Hybrid fibers was replaced in percentages such as 0, 0.5%,1%,1.5% and Cement was partially replaced by Fly ash and Ground Granulated Blast furnace Slag (GGBS) varied up to 30% by weight of cement. . All tests and discussions are discussed better.

Key Words:

Steel Fiber, Polypropyene Fiber,GGBS and Flyash

Sustainable Development Goals

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Abstract:--

The world received a "wake-up call" of sustainable development goals (SDGs) from united nations on 2015.which mainly targets for the environment, society and economy. These were embraced with the help of 193 state members. The united nation has set out 17 sustainable development goals (SDGs) as a resolution and expression of a non-codified and, at the same time, competing orders of values and principles. SDGs goals are the result of an unprecedented consultative process that brought national governments and millions of citizens from across the globe together to negotiate and adopt the global path to sustainable development for the next 15 years. By considering this main agenda of transforming the worlds by 2030, Indian government took initiative to implement of "leave no one behind". It is critical to the implementation of these targets that they should be relevant to all governments and actors. Development in all its dimensions must be inclusive of all people, everywhere and should be built through the participation of everyone, especially the most vulnerable and marginalised.

The Comparison of Numerical and Coding Solution for Initial Value Problems

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Abstract:--
In this paper presents about the comparison of Numerical and coding method for three method Taylors, Euler's modified method, Milne's and Adams Bash fourth method of solving initial value problems, In that we can conclude the better solution of Initial value problems.

Keywords:
Coding, Taylors, Euler's modified method, Milne's and Adams Bash fourth method.

Wear Study of Stir Cast Aa7075 Metal Matrix Composites and Optimization of Wear Using Grey Relational Analysis

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Abstract:--

The aim involved in designing metal matrix composite materials is to combine the desirable attributes of metals and Ceramics. Present work is focused on the machining and preparation of AA7075/SiCp composites produced by the stir casting process by taking different Reinforcement % of SiCp by weight (0, 5, 7.5, and 10).Hardness Test and Wear test calculations performed on the samples obtained by the stir casting process. For wear testing a plan of experiment based on L16 Taguchi orthogonal array is used to acquire the wear data. Grey relational analysis approach is used for optimization of aluminium based metal matrix composite to determining metal matrix properties with certain chemical composition and identifies the most significant process parameters which will affect the properties. An analysis of variance is employed to investigate the influence of four controlling parameters, viz., SiCp content, normal load, sliding distance & sliding speed on dry sliding wear of the composites. It is observed that SiCp content, sliding distance, and Sliding Speed significantly affects the dry sliding wear while Normal Load effect on wear is almost negligible. At last the micro- structural study of the wear surface and composites indicates the nature of wear to be mostly adhesive & distribution of the particles in the composites.

Agrimonitoring with IoT

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Abstract:--

Agriculture plays dynamic part in the development of agricultural country. In India about 75 present of people depends upon agricultural and one third of the nation's money comes from agriculture. Now a day there is huge improvement in technologies, different tools and techniques are available in agriculture sector. Issues regarding agriculture have been always delaying the growth of the country. The only solution to this problem is smart agriculture by improving the current traditional methods of agriculture. The object of the paper aims to make agriculture smart using robotics and IoT technologies. There are three main features included in this paper 1. Smart Global Positioning System based remote controlled robot to do tasks like spraying, humidity sensing, birds and animals alarming, keeping awareness, etc. 2. Smart irrigation with smart decision making based on accurate real time ground data. 3. Smart warehouse management which comprises temperature, humidity maintenance and theft detection in the depository. Monitoring and managing all these processes will be through any remote smart device or computer linked to world wide web and the processes will be accomplished by interfacing sensors, Wi-Fi or ZigBee components, camera and actuators with micro-controller and raspberry pi.

Keywords

IoT, Automation, Wi-Fi, ZigBee , Smart Farming, Efficiency

Analysis of Different Types of Multilevel Inverters Topologies, Controls, and Applications

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Abstract:--

Here multilevel inverter uses a series of semiconductor power converters thus generating higher voltage. The concept of multilevel inverters is used to decrease the harmonic distortion in the output waveform without decreasing the inverter output power. We can synthesize switched waveforms with lower levels of harmonic distortion than an equivalently rated two-level converter. Multilevel inverters can generate power with low distortion. This paper presents the most important topologies like diode-clamped inverter (neutral- point clamped),capacitor-clamped (flying capacitor), and cascaded multilevel with separate dc sources and it also presents the most relevant modulation methods developed for this family of converters: multilevel sinusoidal pulse width modulation, multilevel selective harmonic elimination, and space-vector modulation. It is believed that this article will be very much useful to the researchers for finding out the relevant references in the field of topologies and modulation strategies of multilevel inverter.

Keywords

Comparison, Cascaded Multilevel Inverters, Harmonic Distortion, Multilevel Inverter, Modulation, Reduced Number Of Device Topologies, Voltage Balance.

Arduino Based Smart Cart

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Abstract:--

There has been AN rising demand for fast and straightforward payment of bills in supermarkets. This project describes the way to build an automatic and time saving system for the globe of retail which can create searching expertise impetuous, client friendly and secure. during this paper, sensible cart is planned which will be capable of generating a bill from the cart itself. The client will create the payment in no time through a chargeable mastercard which can facilitate to take care of info and introduce schemes and offers in stores consequently. The designed cart eliminates the hassle of self packaging, makes the simplest use of cart space for storing and involves security mechanism for stealing management. The sensible cart uses RFID technology for searching and payment, AVR microcontroller for peripheral interfacing and inventory management. This innovative system can facilitate the stores to examine an increase in their sales beside delighting customers.

Keywords

AVR Microcontroller, Intelligent car, RFID technology (products, card and tags), Retailing system.

Binary Sift Invariant Feature Transform for Large Scale Image Search

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Abstract:--

Based on scale invariant feature transformation (SIFT) in large scale image search applications, the bag-of-word model is widely used. Particularly demonstrated by Vector quantization, there is an important role in the Quantization Board model, which generates visual-word from high-dimensional shift properties, and thus corresponds to the inverse file structure for scalable re-design. The quantity systems of conventional facilities have to face many problems such as visual codebook training, limited reliability, and inability to update. To avoid the above problems, in this letter, a novel trajectory plan is proposed to limit each CITT specification to an important and discriminatory bit-vector, called binary SIFT (BSIFT). Our Cubizer image is independent of the collection. In addition, if BSIFT adopts 32-bit codes before BSIFT, then BSIFT will be analogous to the classic reversal file structure for image indexing. Here, research on the development of compact bit-vector representation in scammer quantization.

Design of an Earth Observation Satellite for supporting disaster Management in Equatorial Region

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Abstract:--

This paper aims to develop a simulated design of an Earth Observing (EO) Satellite named as ADITISAT which supports us in disaster management such as Flood, Earthquake and Tsunami. The proposed system is designed to overcome the thick cloud cover while capturing the earth data. The overall mass of our satellite will be less than 26 kg. The Satellite is designed to cover equatorial region at 23 ° Latitude and longitude. The implementation strategies of our research advocate Attitude Determination and control components, Communication Components, Power management, Solar Panel design, payload calculation and Design of the Satellite etc. The key challenge in ADITISAT is maintaining the mass under the expected mass as well penetrating the thick cloud cover. This Research concept will definitely have lot of scope to convert in to a real one.

Fuzzy Controller for Customer Driven Grid

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Abstract:--

This research analysis proposes the effective digital manipulate and safety of power electronics interfaced structures to compensate the reactive electricity in Transmission machine and allotted technology gadget for better energy aspect and improved average gadget efficiency in a purchaser-pushed grid (CDG). The designed system is interfaced among the voltage supply converter and the utility grid. The Interfaced strength electronic device must be synchronized with the software grid to ensure 1) Stabilization in grid 2) To inject or to soak up the excessive first-class reactive strength to or from the utility grid as a way to hold cohesion power factor three) high typical gadget performance. To gain the above constraints the fuzzy based virtual manage pulse width modulation approach is hired to reap fast dynamic response and higher way of making use of the DC link voltage. In the proposed paintings the hysteresis modern-day manipulates of PWM – VSC, Fuzzy based SVPWM Controller is carried out. The linguistic description is used to design the modern repayment scheme that allows you to enhance the overall performance of grid related voltage source converter device. Modeling, Simulation and experimental outcomes are completed in MATLAB/SIMULINK to confirm the overall performance of the controller.

Keywords:

Fuzzy Controller, PWM – VSC, SVPWM Controller, Utility grid, Current Compensation, Customer driven grid.

Fuzzy-Based Energy Management System for Green Houses Using Grid-Solar Power

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Abstract:--

Today, we are seeing a rise of global awareness of energy consumption and environmental problems. Many nations have launched different programs to reduce the energy consumption in residential and commercial building to seek lower-carbon energy solutions. Our paper is about the future green and smart house. The subject of smart/green houses is not one of "why" but rather "how" specifically: "how making the future house more energy efficient." The use of the renewable energy, the technology and the services could help us to answer to this question. Intelligent home energy management is an approach to build centralized systems that deliver application functionality as services to end-consumer applications. The objective of this work is to develop a smart and robust controller for house energy consumption with maximizing the use of solar energy and reducing the impact on the power grid while satisfying the energy demand of house appliances. We proposed a Fuzzy-based energy management controller in order to reduce the consumed energy of the building while respecting a fixed comfort.

Keywords:

Renewable Energy System, Fuzzy-Based Energy Management Controller

Call Admission Control for Wireless Cellular Network – A Review

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Abstract:--

The increasing demand for multimedia services combined with the resource constraints of the wireless networks indicate the need of efficient admission control schemes to achieve a complete resource management combined with adequate quality of service(QoS) levels for end users. QoS provision in wireless networks is closely related to the exploitation of available network resources and the maximization of the number of users. Call Admission Control(CAC) is one of the key issues in wireless mobile communications, concentrating great interest in research work about QoS. CAC algorithms are employed to ensure that the admission of a new call into a resource limited network does not violate the Service Level Agreements concerning ongoing calls.

Hand Signal CRV

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Abstract:--

In the present time human machine collaboration is getting far reaching. Motions have assumed a significant job in decreasing this gap. This paper has arrangements with structure and usage of an accelerometer-based hand motion controlled mechanical vehicle controlled remotely utilizing a little minimal effort, 3-pivot accelerometer. An epic calculation for signal ID has been created to supplant the methodology of traditional controlling system of robots through catches and so on by an inventive hand motion based controlling. A hand motion control mechanical vehicle is a sort of robot which is constrained by the hand motions and not by utilizing catches. The fundamental expect to configuration is to make the robot move when the administrator makes any motion. Physical hardship to the client is dodged using accelerometer similarly as with the spot of the hand, the client gets the capacity and opportunity to transform the robot into the ideal bearing.

Keywords—
part, designing, style, styling, embed .

Implementation of MPPT Solar Charge Controller using MSP430 Ultra Low Power Microcontroller

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Abstract:--

The need for renewable energy sources is on the rise because of the acute energy crisis in the world today. Solar energy is a vital renewable resource for the power. In this project, we examine a method to extract maximum obtainable solar power from a Photo Voltaic (PV) module. This project investigates in detail the concept of Maximum Power Point Tracking (MPPT) which significantly increases the efficiency of the solar photovoltaic system by using interleaved buck topology. The MPPT is responsible for extracting the maximum possible power from the photovoltaic and feed it to the battery or load via the interleaved buck converter which steps down the voltage to required magnitude. The main aim will be to track the maximum power point of the photovoltaic module so that the maximum possible power can be extracted from the photovoltaic module. The algorithms utilized for MPPT is Perturb and observe method which is easy to model or use as a code. The interleaved buck converter is controlled through ultra low power MSP430 Microcontroller and photovoltaic full bridge driver.

Keywords—

MPPT, Interleaved Buck Converter, Photovoltaic full bridge driver, PV cell, Pulse width modulation.

Indian 2020 Public EV Charging Station

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Abstract:--

Over the years, there has been a tremendous increase in road transportation and vehicular traffic due to an exponential growth in economic development and consumption habits throughout the world. The effect of vehicular pollutant emissions is significantly more pronounced in an urban scenario, as compared to regional or global scale. As a world is progressing at a rapid terms of technologies, by utilizing fossil fuels we are moving away from greener earth. There is a need in finding alternative source of energy which can sustain geological balance of our earth and compensate for the depleting fossil fuels. To overcome this crisis, electric vehicles are introduced. At present days, India is the largest market for automobiles with electric vehicle constituting less than 1% of total automobiles on road. There is just production of vehicles but there is no proper charging infrastructure. To overcome this public charging infrastructure is introduced. One of the key problems is public charging infrastructure.

Keywords—
Charging Station, Indian Economy

Micro Thin Battery

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Abstract:--

We demonstrated a novel fabrication technique of 3-D biobattery packs by folding or stacking 2-D paper-based biobatteries for their series and/or parallel connections. A stackable, high-performance bacteria-powered battery was developed by folding two functional components (i.e. a conductive hydrophilic reservoir as an anode and a solid electron acceptor as a cathode) integrated into a single sheet of chromatography paper. Upon adding one drop of bacteria-containing liquid on the device, bacterial respiration transferred electrons from the organic liquid to the electrode, providing power to an external load. The various battery folding and/or stacking strategies with different series and/or parallel combinations significantly improved the power and current outputs. This battery manufacturing technique on paper can improve performance, simplify fabrication and connection, and revolutionize mass-production of large-scale flexible paper batteries, enabling the development of new types of powered, paper-based electronics.Traditionally, electronics have been designed around their batteries. In recent years, however, a new battery, known as the paper battery, has been developed that can easily conform to the size and shape of various electronics. The paper battery is becoming increasingly significant as technology tends towards thinner and more paper-like devices. This paper will include a technical discussion of how the paper battery works. It will assess the efficiency and explore the advantages of recent developments in the fabrication of paper batteries. Several applications of the paper battery will then be described, and ethical issues that arise with it will be explored. This paper will illustrate how the paper battery utilizes carbon nanotubes and cellulose in its design to create a flexible battery while maintaining electrical efficiency. Further discussion will detail how the paper battery integrates the components of a typical batteryinto a cohesive design that is paper thin. The advantages of this design include an increased range of applicability and a simpler, more efficient fabrication process. Applications that will be explored include smart cards, medical devices and solar panels. This description will be followed by a discussion on ethical issues surrounding the paper battery, such as nanotoxicology; since paper batteries use nanotechnology, any health risks must be evaluated, especially for medical applications. However, the paper battery is a promising innovation whose efficient use of space will open up thousands of possibilities for electronic and mechanical design.

Keywords—
Paper battery, Electronics

Power Transformer Protection Using Adaptive Differential Relay Using For Fault Analysis

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Abstract:--

This paper discuss the fault analysis and differential protection scheme of the three phase power transformers. The relay operates mainly during the internal fault condition and it must be insensitive to any fault outside the zone of protection. In this paper, a fuzzy logic based differential protection schemes has been used. It blocks the tripping during external fault condition or magnetizing inrush current and it trips the relay during internal faults. The simulation result of fuzzy logic based differential relay for three phase power transformer shows the fast tripping during internal fault and also avoids the mal operation of relay during external fault.

Keywords

Circuit Breaker, Differential relay, Fuzzy Logic Controller, Mat Lab, Power Transformer, Transmission Line .

Security Lock for Bike Ignition Using Android Mobile

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Abstract:--

Here may be a basic reality of contemporary life, everybody a lot of possible to lose your keys than a smart phone, which might be like losing a limb to a growing portion of the population. That's one reason that good locks (locks that may open from a smart phone) are gaining in quality again and again individuals forgot to hold the key of our bike or key gets lost. In these cases it's very troublesome to induce the bike started.

This project is intended to unravel this purpose. Main thought behind this project is of a relay in operation employing a countersign entered through mechanical man mobile. It additionally activates the Buzzer once wrong countersign is entered for multiple times.

The main objectives of this project are to style and develop a system victimization microcontroller that may management the bike ignition. Second one to create a secure access to the system using pass key. Third one to develop an Android mobile application for the system. The idea of this project came once there are plenty cars these days came with a wireless security system and several other latest technologies. But, the protection system for the motorbike, particularly the little bike wasn't developed similarly because the cars.

Keywords:

Microcontroller, LCD: Liquid Crystal Display, Buzzer, Bluetooth Technology, Android mobile.

Smart Grid Operation with Hybrid Renewable Resources and Hybrid Electric Vehicle

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Abstract:--

The utilization of renewable energy resources will significantly increase to achieve clean and sustainable electricity generation. The management of the continuous growth share of variable renewable resources, integration of electric vehicles (EVs) and regulation of grid frequency require effective communication facilities of recent smart grids. In this respect, smart converters can provide efficient power conditioning devices to extract maximum power from renewable resources. In addition, the batteries of EVs could be used as distributed storage and discharge power back into the grid to compensate power deficit and fluctuation.

Modeling and controlling of the hybrid resources within smart grid were carried out in this paper. The smart converter is switched to track the maximum power point MPPT of the solar panels. In addition, the pitch angle control and DFIG regulation are used to extract the maximum power under different wind speed and tidal stream velocities. The deployment of EVs can compensate power fluctuations and regulate the frequency deviations in the grid based on the proposed PID controller. In this paper, the integral minimization of time-weighted absolute error (ITAE) is used for on-line tuning of the PID controller parameters. Using Matlab / Simulink package, the smart grid is modeled and simulated using the weather data and then the grid performance is assessed under system disturbances and load excursions

Keywords:

Solar, Wind, Tidal Energy, Electric Vehicle, Smart Grid

SMIDER: The Automated Road Divider

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Abstract:--

In recent years, there has been proportional increase in numbers of automobiles on the roads. Although the number of vehicles using the roads has increased, the static road infrastructure is almost the same and is unable to cope with changes like congestion, unpredictable travel-time delays and road-accidents that are taking a serious shape. Traffic congestion has been one of the major concerns faced by the metropolitan cities today. Road Divider is generically used for dividing the Road for ongoing and incoming traffic. This helps keeping the flow of traffic. Generally, there is equal number of lanes for both ongoing and incoming traffic. Our idea is to formulate a mechanism of automated movable road divider that can shift lanes, so that we can have a greater number of lanes in the direction of the rush. An Automated movable road divider can provide a solution to the above-mentioned problem effectively. This is possible through IOT. The sensors placed on the dividers sense the flow of traffic whether flow of traffic is smooth or not? If the flow is smooth on either side then there is nothing to worry but the lane which is having more traffic, the divider is moved to a certain distance to the smoother lane in order to smoothen the busy lane.

Keywords:

IOT, static road, sensor, automated, traffic, movable, road divider.

The Balancing Techniques of Smart Grid in India's Power Grid System Management

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Abstract:--

The movement in control equipment and electronic control development, the DG structures can be viably controlled to overhaul the system operation with upgraded PQ at PCC. The use of vitality gadgets based apparatus and non-coordinate burdens at PCC deliver symphonious streams, which debilitate the idea of vitality. A converter is being used which can be used both as a rectifier and an inverter .In this paper concentrated on the network interfacing inverter can adequately be used to perform following critical capacities:

1) Transfer of dynamic power reaped from the sustainable assets (wind, sun oriented, and so forth.);
2) Stack responsive power request bolster;
3) Current sounds remuneration at PCC; and
4) Current unbalance and unbiased current remuneration if there should be an occurrence of 3-stage 4-wire framework. In addition, with satisfactory control of lattice interfacing inverter, all the four goals can be refined either exclusively or at the same time. The PQ requirements at the PCC can along these lines be entirely kept up inside the utility models without extra equipment cost.

Combinatorical Applications of Rook Polynomials in Various Fields

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Abstract:--
In this paper, we studied the game of chess, the rook and its movements to capture pieces in the same row or column as the rook. With this idea we applied it to combinatorial problems which involve permutation with Forbidden positions. By applying generating functions and n × m arrays to construct rook polynomials in a combinatorial way.

Keywords
R-Arrangement, Combinatorial Structures, Chess Movements.