



Dedicated to our beloved Founder Chairman

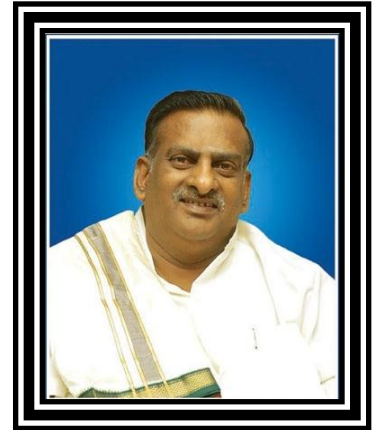
He is a born fighter. He fought adversity in his childhood. Once his mind was made up to start educational institutions, hurdles and set backs could neither deter his progress nor dampen his enthusiasm. His dedication and devotion towards his crusade is contagious and it rubs on everyone who comes in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

May his tribe grow!

The inspiration...

Born into a typical middle-class family, M.J.F. **Lion. Leo Muthu** began his career as a government employee and rose to become a highly successful entrepreneur. He 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. M.J.F. 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 M.J.F. Lion. Leo Muthu is a man with golden dreams & a never-ending enthusiasm of converting dreams in to reality.

i7C - 2017

**4th INTERNATIONAL CONFERENCE ON
CHIP, CIRCUITRY, CURRENT, CODING,
COMBUSTION & COMPOSITES**

**Anekal, Bengaluru
16th – 17th November 2017**

**Published by:
Institute For Engineering Research and Publication
(IFERP)**

**Organized at:
Sri Sairam College Of Engineering,
Saileo Nagar, Samandhur(PO)
Anekal, Bengaluru – 562 106.**

Welcome Message

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 “*4th International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-17)*” which will take place from *16th – 17th November '17*

Transforming the importance of Engineering, the theme of this conference is “*4th International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-17)*”

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*



Mr. R. B Satapathy
Director
IFERP

Preface

The “*International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-2017)*” is being organized by Sri Sairam College of Engineering, Bengaluru, Karnataka, India in association with *IFERP-Institute for Engineering Research and Publications on the 16th- 17th November’ 2017*.

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 the “*International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-2017)*” was a notable event which brings academia, researchers, engineers, industry experts and students together.

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

The International Conference attracted over 223 submissions. Through rigorous peer reviews 143 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. B. SHADAKSHARAPPA
Prof. Malini K.V
Program Chairs i7C-2017



Dr. B. Shadaksharappa
Program Chair - i7C - 2017
Vice Principal
Professor & Head (CSE)
Sri Sairam College of Engineering
Bengaluru

MESSAGE

The **i7C - 2017 International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites** (i7C - 17) is organized at Sri Sairam College of Engineering, Bengaluru on November 16th & 17th 2017. This conference is supported by International Association for IOT and Global Association for Nano-Technology. The conference provides an international forum to the leading academicians, engineers, researchers, industry practitioners, scholars, to exchange ideas, share their experiences and research outcomes in all the aspects of engineering. Its success is reflected in the papers received from the participants approaching from several countries with their genuine multinational and multicultural exchange of experiences and ideas. The i7C - 2017 has teamed up with the Institute for Engineering Research and Publication (IFERP) for the journal issue with the proceedings to be published and the selected papers published in the reputed Journals. The Evidences of the technological advancement and incessant waves of innovations indicate our threshold into the third industrial revolution that will usher into the age of information in no time. 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.

The exceptional contribution by all the authors is exceedingly treasured. It's the celebration of their work and spirit of advancing the frontiers in the technical field.

I congratulate the team for their preeminent efforts in organizing this event

With best wishes!

Dr. B. SHADAKSHARAPPA



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

MESSAGE

I am extremely delighted to invite you to the **International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C - 2017)** at Sri Sairam College of Engineering, Bengaluru on November 16th & 17th 2017 organized by Sri Sairam College of Engineering in association with IFERP and sustained by the International association for IOT & Global association for Nano Technology.

Over the years, the Conference on Science & Engineering has progressed to be one of the exceedingly extensive and contributing aspects for the technological expansions and its applications. Eminent experts are invited in the relevant field to be a part of our Technical Program Committee to afford unique technical presentations in the conference. The topic desired for the conference is relatively appealing in providing a substantial scope for further interactions amongst the participants at national & international forums.

I congratulate the team for their preeminent efforts in organizing this event.

With best wishes!

SAI PRAKASH LEO MUTHU



Dr. Y. Vijaya Kumar
Principal
Sri Sairam College of Engineering
Bengaluru.

MESSAGE

Greetings from Sri SAIRAM College of Engineering, Bengaluru

On behalf of the Management and staff, I would like to invite all of you to the International Conference.

I am glad to inform you that the Department of Computer Science and Engineering and Electrical & Electronics Engineering are organizing an **International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C - 2017)** at our institution in association with the Institute for Engineering Research and Publication (IFERP).

The International Conference **(i7C - 2017) which is technically supported by** International association for IOT and Global association for Nano Technology, aims to focus on applications and will be of interest to students, academicians, industrialists and others. The conference has an array of sessions dedicated to various application themes and several invited talks by experts from India and abroad. The papers contributed will be comprehensively administered to appear in IFERP journal.

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.

I wish you all the best.

Dr. Y. VIJAYA KUMAR



Dr. R. Arunkumar
Management Representative
Sri Sairam College of Engineering
Bengaluru.

MESSAGE

It is my pleasure to invite you to the **International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C - 2017)** proposed at Sri Sairam College of Engineering, Bengaluru on November 16th & 17th 2017.

The Technological expansion is considered to be the prerequisite reserve in the modern era of Engineering and Science & Technology as well. Currently, it is exceedingly impossible to envision our existence without Science & technology.

The International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C - 2017) will afford an extraordinary profile, leading-edge technology forum for the researchers and practitioners, examining the key critical innovations across the technologies with increasing interest from quantity of new ideas.

I hope this conference affords a huge platform to all the participants facilitating profoundly in their impending research.

With best wishes.

Dr. R. ARUN KUMAR



Prof. Malini K.V
Program Chair - i7C - 2017
Professor & Head, Dept. of EEE
Sri Sairam College of Engineering
Bengaluru

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 - 2017)** in association with the Institute for engineering research and publication (IFERP) on 16th and 17th November 2017. The applications of any advanced science and engineering is to facilitate the nation for its development. Power Engineers in the present day scenario have a challenge to provide reliable electrical energy supplies by harnessing renewable energy resources interconnected with the efficient 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 Power 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.

All the best.

Prof. K.V.MALINI



Prof. V. Balaji
Professor & Head,
Dept. of Mechanical Engineering
Sri Sairam College of Engineering
Anekal, Bengaluru-562106

MESSAGE

It gives me immense pleasure to invite you to the **4th International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites i7C-2017**. It will be held on **16th - 17th November 2017 at Sri Sairam College of Engineering, Anekal, Bengaluru** and is being organized by IFERP-India along with Sri Sairam College of Engineering to provide an opportunity to research scholars, delegates and students to interact and share their experience and knowledge in technology application.

The main aim behind this conference is to bring together Researchers, Scientists, Engineers, Scholars, Academicians and Students under one roof and to provide a forum for the dissemination of original research results and new innovative ideas for the benefit of research community and to promote research and development activities, professional interaction and lifelong learning.

I hope this International conference *i7C-2017* will be enjoyable, memorable, and productive for participants and looking forward to the technological innovations that result from your networking and discussions.

Prof. V.BALAJI



Prof. C. Sivapraksh
Professor & Head, Dept. of ECE
Sri Sairam College of Engineering
Anekal, Bengaluru-562106

MESSAGE

Welcome to i7C 2017!

The i7C Conference has established itself as a worldwide reference for the dissemination of high-quality research in all aspects of engineering streams and for fostering interaction and exchange of ideas. i7C has provided a cross-disciplinary venue for researchers and practitioners to address the rich space of communications and networking research and technology. I7C is fortunate to attract a high interest among the community. In a spirit of true cooperation, we in this region of the world, proud of nurturing all past and present civilizations and cultures, must join in an action-oriented effort to attack and solve the problems.

I congratulate the team for their best efforts in organizing this event and my heartfelt wishes to all the participants.

Prof. C. SIVAPRAKASH



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

MESSAGE

On behalf of Department of Science and Humanities, it gives me an immense pleasure to welcome all the authors to “International conference on Chip Circuitry, Current, Coding, Combustion & composition held on 16th & 17th November 2017 at Sri Sairam College of Engineering. I7C-2017 is Co-Organized by IFERP- to provide an opportunity to student, research scholar to interact & share their views, knowledge and application in technology.

Hope you all well make relevant use of this platform so that the objective of i7C-2017 to bring academicians, researchers & industry professionals together is reached to share the latest trends in the field of applied Science, ‘Engineering & Technology’.

I wish you all very success in your deliberation in the conference and happy stay in Bengaluru.

Dr. P. GANGAVATHI



Prof. Bheemeswara Reddy V
Placement and Training Officer
Sri Sairam College of Engineering
Bengaluru

MESSAGE

It provides an Immense pleasure to invite all of you to the **4thInternational Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7C - 2017)** deliberated at Sri Sairam College of Engineering, Anekal, Bengaluru on November 16th& 17th 2017.

The conference delivers an international prospect to the prominent academicians, engineers, scholars, industry experts, to interchange their concepts, capabilities and augment their prospective prolifically in the arena of technology.

I anticipate this 4thInternational conference delivers an affluent platform to all the accomplices expediting in their imminent research in the future.

With best wishes.

Prof. BHEEMESWARA REDDY V

***i7C* - 2017**

**4th International Conference on Chip,
Circuitry, Current, Coding,
Combustion & Composites**



Keynote Speakers



Shri.Dr.B.K.VENKATARAMU

Associate Director

(ISRO -Indian Space Research Organization)

MESSAGE:

I am happy to note that an 4th International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-2017) on 16 - 17th November 17 is being organized by Sairam College of Engineering, Anekal, Bangalore, Karnataka & Institute for Engineering Research and Publication (IFERP). Technology is fast changing and this conference shall be covering the various aspects of advancement in Chip, Circuitry, Current, Coding, Combustion & Composites etc., involving nanotechnology materials, fluids, laser fabrication, CAD, CAMto name a few. I am sure; conference of this nature shall be a great opportunity to ignite the young & prospective Mechanical Engineers to take the technology to greater heights for the betterment of the country & humanity. I convey my warm greetings & best wishes to all the participants and a great success.

BIOGRAPHY:

Shri. B.K. Venkataramu, graduated from University Visvesvaraya College of Engineering (UVCE), Bangalore in Mechanical Engineering in 1976 and later obtained his MS from IIT Madras. Starting his carrier in ISRO, Bangalore in 1977, Shri. Venkataramu has specialized in the field of Propulsion Systems for Spaccraft. He is responsible for total indigenization of propulsion systems for a range of Satellites, for interplanetary mission (Chandrayaan-1 and Mars orbiter mission), Space capsule recovery experiments etcHe also played a major role in the success of the Chandrayan-1 & Mars orbiter missions.

Shri.Dr.B.K.VENKATARAMU



Dr. GOPAL HEGDE

Professor

(IISC -Indian Institute of Science)

MESSAGE:

It is my pleasure to be the part of 4 th International Conference on Chip, Circuitry, Current, Coding, Combustion & Composites (i7C-2017) to be held on 16th & 17th November 17, being organized by IFERP-International and Sairam College of Engineering, Anekal, Bangalore, Karnataka. It is a well thought conference topic and hope to provide an opportunity to all research community and students to interact and share their experience and knowledge in their effort to convert scientific invention to technology. The conference aims to facilitate the exchange of new ideas in the fields of internet science and to create a dialogue between developer and educators to present and discuss the most recent innovations, trends, and concerns, practical challenges and the problem solution adopted in the field of chip, circuitry, current, coding, combustion & composites. It is also interesting that Sairam College of Engineering, Anekal, Bangalore, Karnataka is hosting this conference. I wish that all the participants, speakers will make this opportunity for useful discussions and future collaboration towards engineering and technology outcomes. This will also be a good move towards make in India approach. I also wish that the organizers, management of the host Institute, conference attendees, speakers, students, will work hard for the success of the meeting. I am sure that your combined effort in meeting the objectives of the conference to provide a platform to the researchers and practitioners from both academia as well as industry to interact and share cutting-edge development in the science and technology will be a successful one.

BIOGRAPHY

Shri. B.K. Venkataramu, graduated from University Visvesvaraya College of Engineering (UVCE), Bangalore in Mechanical Engineering in 1976 and later obtained his MS from IIT Madras. Starting his carrier in ISRO, Bangalore in 1977, Shri. Venkataramu has specialized in the field of Propulsion Systems for Spacraft. He is responsible for total indigenization of propulsion systems for a range of Satellites, for interplanetary mission (Chandrayaan-1 and Mars orbiter mission), Space capsule recovery experiments etcHe also played a major role in the success of the Chandrayan-1 & Mars orbiter missions.

Dr. GOPAL HEGDE



Dr. NURUL AKMAL BT CHE LAH

Principal & Dean

(Universiti Malaysia Pahang, Malaysia)

MESSAGE:

The exploration of the innovative properties of engineered nanomaterials specifically in electronics and electrical applications are not new and yet progressing particularly in the size-tuning-based assembly. Recently, the new approach in combining broad classes of dissimilar engineered materials into heterogeneous integrated electronic device systems with multiple dimensional layouts (_e.g._ nanotube, nanowires, and nanoribbons) becomes one of the promising routes in yielding high-throughput performance integrated electronics on rigid and flexible device substrates. Getting a right materials properties at right design stage is crucial. Therefore, the size and morphology-dependent variation in the intrinsic properties of matter, e.g. dimensionality, geometry, composition, uniformity and degree of aggregation at the nanoscale, is one of the most enchanting aspects of nanoparticles which need to be understood.

BIOGRAPHY

Dr Nurul A.C. Lah was born in Kelantan, Malaysia. She studied Engineering at the University of Malaya, Malaysia where she successfully completed her degree in B.Eng (Hons) in Materials. As a scholar under tutorship scheme programme, she continued for another degree, in postgraduate studies at University of Malaya pursuing Master in Materials Science which was achieved in 2010. She received a scholarship from the government of Saudi Arabia and pursuing her DPhil study in Advanced Materials (Nanotechnology) in 2011 at University of Oxford, United Kingdom. Her dissertation was successfully defended in February 2016 entitled "The Size-Induced Metal-Insulator Transition in Silver Particles". She is a Lecturer in Materials Engineering at present, teaching materials science, materials engineering and mechanical engineering at the undergraduate level at the Faculty of Mechanical Engineering, Universiti Malaysia Pahang, Malaysia.

Dr. NURUL AKMAL BT CHE LAH



Prof. CHINTAKINDI SANJAY

Principal & Dean

(GITAM university)

BIOGRAPHY

Gopalkrishna Hegde received his M.Sc and Ph. D in Physics(1993), all in India. He is currently with the Centre for Nano Science and Engineering, Indian Institute of Science, Bengaluru. He was Assoc. Prof. in UK Open Univ. Singapore, and Research Director at the NP-AEM Centre of Innovation, Singapore (1996-2007). He has over 130 publications in international, national journals and conference proceedings and has 5 patents. He has guided several Masters and PhD students. He has presented invited talks/key notes at various institutions and at international conferences. He has been advisory/review/organizing member of many international and national conferences. He has completed many sponsored research projects in Indian and in Singapore. He has been a reviewer for many international/national journals. He was a consultant of few industries in Singapore. He was Visiting Professor/Scientist in the FEMTO-ST.

Prof. CHINTAKINDI SANJAY

i7C-17

***4th International Conference on Chip, Circuitry,
Current, Coding, Combustion & Composites***

Anekal, Bengaluru, 16th – 17th November 2017

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E. Prof. Ravi Angadi	Faculty, Dept. of EEE
F. Prof. Madhu Devan	Tutor, Dept. of EEE

PHOTOS & VIDEO

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|-----------------------------|---------------------------------------|
| A. Mr. Sreeraj | Desktop Engineer, Dept. of CSE |
| B. Mr. Ranjith Kumar | Instructor, Dept. of EEE |

PRESS REPORT

- | | |
|----------------------------------|------------------------------------|
| A. Prof. Venkatesh Murthy | Faculty, Dept. of EEE |
| B. Prof. Harish Babu L. | Faculty, Dept. of MECH |
| C. Prof. Luther Benny | Faculty, Dept. of S & H |
| D. Mr. S.C. Swamy | Dept. of CSE |

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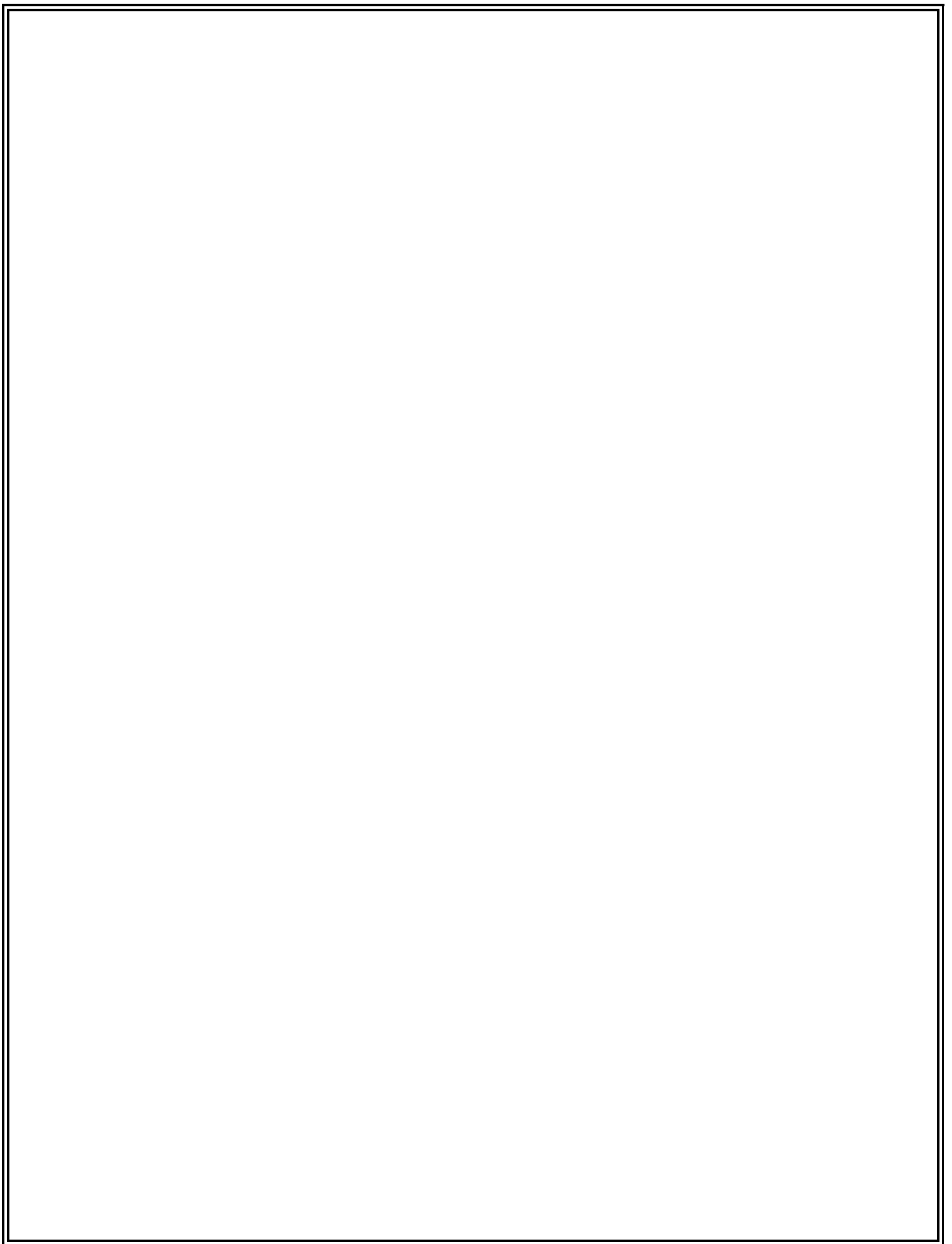
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ABSTRACTS

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4th International Conference On Chip, Circuitry, Current, Coding, Combustion & Composites

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Future of Cloud Computing In It Field 2020

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Abstract:--

Many organizations taking their first tentative steps, but by 2020 cloud is going to be a major and permanent part of the enterprise computing infrastructure. Three years from now we are likely to see low power processor crunching many workloads in the cloud and supporting massively federated scalable software architecture.2020 cloud computing is likely to be a standard part of enterprise IT. To get an idea of the type of failures that cloud companies will be forced to deal with. It is helpful to look to supercomputing an area that uses many of the technologies and methods that eventually makes the way into the cloud.

Keywords:--

Cloud Computing Architecture, Hosting a cloud, Cisco

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Online Voting System

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Abstract:--

In the existing system till now, the voting is performed by going to the voting centre. During the year 1997 election, election voting machine (ECV) was introduced as a new method of polling, so the main disadvantages of this system is time consumption, risk oriented process, election expenses etc. We are bringing a new project called ONLINE VOTING SYSTEM. The main feature of this project is to build a website, which allows people to cast their vote online. We are building this project by using software's like ASP.NET as a frontend and SQL SERVER as a backend. The hardware requirements of this project are Pentium 4 processor, 500MB hard disk and ram capacity of 4GB. After the completion of design and coding phase the next stage in the development of software project is a Testing phase. In testing phase, the program to be tested is executed with a set of test cases, and output of the program for the test cases is evaluated to determine if the program is performing as it is expected to. The types of testing done here are UNIT Testing and INTEGRITY Testing. Unit testing is dynamic method for a verification where the program is actually compiled and executed. In Integrity testing many tested modules are combined into sub-system, which are then tested.

Keywords:--

website, online vote

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Information Sharing by Block Chain Technology for Supply Chain Management

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Abstract:--

The management of upstream and downstream value-added flows of materials, final goods, and related information among company, distributors, resellers, and final customers can be termed as the main objective of Supply Chain Management. But, at times due to base on virtual data, there occur chances of the failure of the algorithm used to devise the flow plan due to the variations, in the information shared among the people in the supply chain. The data shared between manufacturers, suppliers and customers is affected.

Keywords:--

supply chain management; block chain; SCM.

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Survey on Applications of Image Processing In Agricultural Field

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Abstract:--

Monocropped plantations are unique to India and a handful of countries throughout the globe. Essentially, the FOREST approach of growing of fee along with in India has enabled the plantation to fight many out breaks of pests and diseases. Monocropped Plantations are under constant threat of pest and disease incidence because it favors the buildup of pest population. To cope with these problems, an automatic pest detection algorithm using image processing techniques in MATLAB has been proposed in this paper. Image acquisition devices are used to acquire images of plantations at regular intervals. These images are then subjected to pre-processing, transformation and clustering

Keywords:--

CCD camera ,trinocular microscope, RGB,EX-C filters,BIAS Software

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“Technological utilization in the English Language Teaching and Learning”.

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Abstract:--

In the language teaching and learning, there is a profuse scope for selection from the domain of technology: Radio, TV, CD Rom, Computers, C.A.L.L., the Internet, Electronic Dictionary, Email, Blogs and Audio Cassettes, Power Point, Videos, DVD's or VCD's. The last two decades have realized a revolution due to inception of technology, and has transmuted the dynamics of assorted industries, influencing the industries and the way people interrelate and work in the society. This prompt expansion in the information technology presented an enhanced design to explore the novel instruction model. As an influence, the technology plays an exceedingly significant role in the English teaching. Utilizing the multimedia to engender a context to teach English with has its distinctive recompenses. This paper analyses the certainty of multimedia technology in the English language teaching and conveying the problems encountered by using it. It also facilitates the English teachers to be cognizant with the strategies to use them proficiently.

Index Terms:--

English Language teaching, Multimedia Technology, Advantages, Disadvantages, Optimization, Approaches.

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Anekal, Bengaluru, 16th -17th November 2017

Non Invasive Measurement of Parameters for Pregnant Women

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Abstract:--

A hemoglobin test is performed to determine the amount of hemoglobin in an individual's red blood cells (RBCs). This is important because the amount of oxygen available to tissues depends upon how much oxygen is in the RBCs, and local perfusion of the tissues. Without sufficient hemoglobin, the tissues lack oxygen and the heart and lungs must work harder to compensate. In this proposed method, a non-invasive method for measurement of hemoglobin, oxygen saturation and pulse rate is described. The method proposed uses photoplethysmographic (PPG) signals obtained by illuminating a finger with monochromatic light at two different wavelengths. An empirical equation for calculation of Hb, SpO2 and pulse rate in blood is derived.

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Utilization of Biomedical Waste Incinerated Ash as a Binder Material in Concrete

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Abstract:--

In this study, we investigate the effective utilization of biomedical incinerated bottom ash as a binder material in concrete structures for fully replacement of cement. The structural behaviour and chemical compositions of both biomedical waste incinerated ash, ordinary Portland cement and Portland pozzolana cement are studied and analyzed by using microscope, SEM and XRD method, and the values are tabulated and the images are also presented. It is shown that better scope of biomedical waste incinerated ash as a binder material for our future consideration to eliminate the potential landfill disposal of waste.

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4th International Conference On Chip, Circuitry, Current, Coding, Combustion & Composites

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An Efficient Trusted Based Secure Geographic Routing Protocol in MANET

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Abstract:--

In Mobile Ad hoc Network (MANET), the nodes are linked to one another wirelessly and are self sustaining. The deployment and maintenance of this network is less expensive and comparatively easy when compared with the conventional networks. At Network layer, most adhoc routing protocols are cooperative in nature and they rely on implicit trust amongst the neighbors to enroute packets to appropriate destination. This behavior paralyses the network when trust is compromised amongst the inside nodes in the network. To overcome this and to safeguard the network performance, in this paper we propose to develop a trusted secure geographical routing protocol for detecting insider attacks. This routing protocol determines the trust value of its neighbouring nodes and based on it, packets are transmitted. The neighbouring nodes are monitored to check if they forward the packets successfully or not. In this way, trustworthy nodes are recorded and the untrustworthy nodes are determined to be malicious. The malicious nodes are thus omitted from routing process.

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The comprehensive intricacies of the Web 2.0 Tools in English Language Teaching

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Abstract:--

The prompt expansions in ICT (information and communications technology) in recent years resulted in an extensive pursuit for potential uses of ICT in pedagogic scenarios'. Many educationalists around the world, comprising English language teachers, are found espousing assorted pioneering strategies to utilize the technology into the teaching ambiances. The language teachers do incessantly hold an extensive assortment of prospects to integrate the technology into the teaching techniques. One of which, is the use of Web 2.0 tools. Although there is no precise consent on what unerringly Web 2.0 is all about. The term denotes to a second generation aspect of World Wide Web, facilitating the people to associate and share the information online easier. Hundreds of such tools on the Internet, makes it challenging for language teachers to determine the constructive ones for the English language teaching. The study focuses to introduce some of the most useful Web 2.0 tools for teaching English language, determined after a rigorous selection based on practical experiments and experiences. Such approaches are found advantageous for the language teachers to be conversant about the potential uses of Web 2.0 tools to enrich their English Language Teaching ambiances.

Index Terms:--

Devices for Language Teaching, Blendspace, Padlet, Scoop.it, Live binders, google drive, vialogues, Voxopop, Lesson writer, pedagogical necessities of teaching circumstances.

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New Technology under Real - Time Eye Tracking

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Abstract:--

Eye tracking technology is an important technology in the field of artificial intelligence(AI). Spot Center Corneal Reflex (PCCR) is an eye tracking technique that relies on pupils and reflected light spots. Eye tracking technique used in the development of human-computer interaction(HCI). Therefore, it is significant to accurately locate the pupil position and reflected spot position. The traditional algorithm used the edge and the gray information of the image to extract the contours of the pupil and the spot, and then determine the location through the fitting. However, the collected images will be affected by many environmental factors, the boundary point and the fitting calculation will greatly affect the efficiency and stability of the algorithm. In this paper, a new method combining image gradient information with threshold segmentation is proposed. Gradient detection and threshold segmentation are carried out in the region of interest, and the pupil and reflection spot are extracted directly. So, this paper use the centroid method of calculation the center coordinates more accurately. The algorithm has a good robust performance to avoid noise and environmental effects. The algorithm used to develop human eye tracking system to achieve real-time eye tracking, while ensuring accuracy.

Keywords :--

Eye tracking, pupil positioning, spot positioning, image gradient.

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Home Automation using IOT

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Abstract:--

The “IOT based Interactive Controlling and Monitoring System for home automation” is a new technological advancement which can control and monitor devices not only for home automation but any real life appliances remotely. Any automation project using embedded system like PIC Microcontroller provides an intelligent , low cost, energy preserving system for homes ,schools ,hospitals .The main objective of this paper is to design and provide implementation details of IOT based ICMS for home as well as for any real life applications to automatically switch on/off lights, fans, gas, curtains ,gates using sensors, which is capable of controlling and automating most of the real life appliances through an easy manageable android based interface. The same project can be scaled up in distributed systems for any real life application.

Index Terms:--

IOT: - Internet Of Things, HACS: - Home Appliance Control System, ICMS- Interactive Controlling and Monitoring System, PIC:-Programmable Interface Controllers.

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Vision Based Rail Inspection Systems

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Abstract:--

Computer vision-based condition monitoring methods, the methods are increasingly used on railway systems. Rail condition monitoring process can be performed using data obtained with the help of computers using these methods. In this study, a computer-based visual rail condition monitoring is proposed. By means of a camera placed on top of the train the rail that the train is on and the neighbor rail images are taken. On these images, the edge and feature extraction methods are applied to determine the rails. The resulting several faults between railways were studied to determine if there is a failure. The results obtained are given at the end of the study. Experimental results show that the proposed method is examined, it is observed that a healthy and effective results.

Index Terms:--

Condition monitoring, railway systems, image processing, fault diagnosis.

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Unstructured Text to DBPEDIA RDF Triples – Entity Extraction

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Abstract:--

In the means of current technologies Use of data, information has grown significantly over the last few years. The information processing facing an issue like where data is originating from multiple sources in uncontrolled environment. The reason for uncontrolled environment is the data gathered beyond the organization and generated by many people working outside the organization. The intent of this paper is delving into this unformatted information and build the framework in such a way that the information becomes more managed and useful for the organization. Case and point for resume submitted for particular position, should become searchable. In this framework we try and solve the problem and provide suggestions on how to solve other similar problem. In this paper, we describe an end-to-end system that automatically extracts RDF triples describing entity relations and properties from unstructured text. This system is based on a pipeline of text processing modules that includes as emantic parser and a co-reference solver. By using co-reference chains, we group entity actions and properties described in different sentences and convert them into entity triples. We applied our system to over 114,000 Wikipedia articles and we could extract more than 1,000,000 triples. Using an ontology-mapping system that we bootstrapped using existing DBpedia triples, we mapped 189,000 extracted triples onto the DBpedia namespace. These extracted entities are available online in the N-Triple format.

Keywords:--

Framework, Knowledge base, TST, Inverted Index.

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Automated Energy Saving System Based on Intelligent Control System

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Vennila D A., Asst professor, EEE Department, Sri SaiRam College of Engineering, Bengaluru.

Abstract:--

To fulfill the energy demand of day to day life an automatic control system is designed based on Programmable logic controller and frequency converter in the central air-conditioning energy saving system in new applications, based on the water cooling, cooling, air conditioning cooling tower fan system intelligent transformation, realize the conversion of energy, as the basic ideas and goals, through the optimization of the traditional PID technology. The refrigeration system, the new system in adjusting parameters and frequency temperature more convenient, and analyzes the significance and value of the new system in the practical application through specific case.

Index Terms: –

centralized air conditioning; programming logic controller, PID

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Design and Implementation of Seven-level Energy Stored Quasi Z-Source Cascaded Multilevel Inverter for PV systems Using Fuzzy logic controller

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Abstract:--

This Paper represents of PV based seven-level Quasi Zsource inverter (QZSI). PV is mathematically modeled along with maximum power point tracking (MPPT).The quasi-Z-source cascade multilevel inverter (qZS-CMI) presents many advantages over conventional CMI when applied in photovoltaic (PV) power systems. For example, the qZS-CMI provides the balanced dc-link voltage and voltage boost ability, saves one-third modules, etc. However, the qZS-CMI still cannot overcome the intermittent and stochastic fluctuation of solar power injected to the grid. This paper proposes an energy stored qZS-CMI-based PV power generation system. The system combines the qZS-CMI and energy storage by adding an energy stored battery in each module to balance the stochastic fluctuations of PV power. This paper also proposes a control scheme using Fuzzy logic for the energy stored qZS-CMI-based PV system. The proposed system can achieve the distributed maximum power point track for PV panels, balance the power between different modules, and provide the desired power to the grid. The method of controller parameters is disclosed, Simulations of the circuit have been executed in MATLAB/Simulink and the results were verified using fuzzy logic controller.

Keywords:--

quasi-Z source inverter (qZSI), Maximum power point tracking (MPPT), Cascade multilevel inverter (CMI), energy storage, photovoltaic (PV) power generation.

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BLDC Motor Driven By Power Factor Correction Based Cuk Converter

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Abstract:--

A Brushless dc motor (BLDC) drive fed by a cuk converter with power factor correction at ac mains is a cost-effective solution for low-power applications. The speed of the BLDC motor is controlled by varying the dc-bus voltage of a voltage source inverter (VSI) which uses a low frequency switching of VSI (electronic commutation of the BLDC motor) for low switching losses. Speed controllers for sensor less BLDC motor uses the principle of Back EMF for finding out the commutation instance. A diode bridge rectifier followed by a Cuk converter working in a discontinuous conduction mode (DCM) is used for control of dc-link voltage with unity power factor at ac mains. Performance of the PFC Cuk converter is evaluated under four different operating conditions of discontinuous and continuous conduction modes (CCM) and a comparison is made to select a best suited mode of operation. The performance of the proposed system is simulated in a MATLAB/ Simulink environment.

Keywords:--

cuk converter, bldc motor, VSI, continuous conduction mode, discontinuous conduction mode

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Phishing: Threats & Challenges

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Abstract:--

Cyber security is the body of technologies, processes and practices designed to protect networks, computers, programs and data from attack, damage or unauthorized access. Cyber-crime is emerging as a serious concern. To the world of computer technology which is evolving ever so fast the government, police and intelligence units are taking this issue very seriously. The world of cyber security is not a small term it deals with the threats such as Phishing, Eavesdropping, spoofing, tampering, Clickjacking, Hacking. In this paper we are going to deal with the challenges regarding phishing. Phishing is derived from two words "Password harvesting" which means fishing for passwords. It is an attempt of acquiring sensitive information such as usernames, passwords, and credit card details directly from users. Phishing is typically carried out by email spoofing or instant messaging, and it often directs users to enter details at a fake website whose look and feel are almost identical to the legitimate one. Preying on a victim's trust, phishing can be classified as a form of social engineering. Phishing is a general term which deals with several subtypes which are discussed further in the paper. Phishing is further classified into Spear phishing, Whale phishing, and Clone phishing. The threats of phishing has confronted us with several challenges concerning with security of data, vulnerability inside an organization, holes in securities in a computer system.

Abstract:--

Spear phishing, Whale phishing, Clone phishing

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Cyber Security: Computer Viruses

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Abstract:--

Computer virus refers to a program which damages computer systems and destroys or erases data files. It has a Capability to copy itself and infect a computer without the permission or knowledge of the owner. The different types of computer viruses are: Trojan Horse, Boot Sector Virus, DOS Virus, Worm, Time Bomb and Logical Bomb. Viruses can be spread through email and text message attachments, Internet file downloads, social media scam links, and even your mobile devices and smartphones can become infected with mobile viruses through shady App downloads. Viruses can hide disguised as attachments of socially shareable content such as funny images, greeting cards, or audio and video files. The most common symptoms of computer viruses are Your computer slows down without any reason. Your computer system has less available memory than it should, Unknown programs or files are being created, Programs or files become missing, Corrupted files, your computer restarts in unusual ways. Some files or programs suddenly don't work properly, Strange messages, displays, music or sounds, Changed Hard Drive name or Volume name, Hard Drives or Disk Drives are inaccessible.

Keyword:--

What is virus, Type of viruses, Latest Computer viruses, Overcoming the Threats, Well Known Anti-viruses.

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IoT: Trends, Challenges, & Future scope

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Abstract:--

IoT (Internet of Things) one of the most exiting trends and innovation in the recent history of technological advancement. IoT can be defined as a network of physical objects, devices that contain embedded technology (like intelligent sensors, controllers etc.) which can communicate, sense, or interact with internal or external systems. Various IoT based applications have been explored and possible approach for enhancing the use of this technology have been discussed in this paper. Future directions and suggestions for effectively and efficiently improving the IoT based application areas have been touched upon. This paper will provide a better insight for anyone who wishes to carry out research in the field of IoT. Here we have tried to provide a holistic perspective on IoT and IoT based applications, application areas, research challenges in IoT, trends and future possibilities in IoT. In this paper, we have studied the most imperative parts of the IoT with accentuation on what is being done and what are the issues that require further research. We believe that, the given interest shown by industries in the IoT applications, in the next years addressing such issues will be a powerful driving factor for networking and communication research in both industrial and academic laboratories.

Keywords:--

Intelligent sensors, Controllers, Innovation.

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Intellect: A Brain Controlled Multi User Video Game For Enhancing Cognition

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Abstract:--

Brain-Computer Interface (BCI) :-A Brain-Computer Interface (BCI) enables communication data recorded from the brain. WIRELESS—EEG The advancement of wireless EEG (electroencephalogram) sensor technology is rapidly changing the way we interact with the world. Many people suffer from lack of concentration and short memory issues. In this paper we are proposing a gaming platform named intellect that has controlled by our brain signals. For collecting the brain signals we are using wireless EEG technology. α , β or γ activity of EEG signals represent cognitive state of human brain. Intellect is designed in such a way that the game only starts functioning whenever our brain state is in attention or cognitive mode. The harder you concentrate it will redirect you to the next levels. This will help the person to improve the cognitive capacity of his brain.

Keywords :—

BCI, WSN, EEG, FFT.

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Vibration Analysis of Cracked and Un-Cracked Structure Using ANSYS

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Abstract:--

In present work, the problem of crack detection for cracked beam using software analysis. FEA is performed on simply supported I cross section beam by using finite element method based on software ANSYS. Crack is discontinuation in a body. The presence of crack in structural member induces the flexibility which affects the vibration response of structural member. The beam having different kinds of loading which cause cracks in beam. These cracks and locations are effects on the in natural frequency and mode shape. Modal analysis is used for determine the natural frequency and mode shape of cracked and un-cracked beam having both end is simply supported investigated by using ANSYS software. Different crack depth are considered and results are compared with uncrack beam. Structural steel and aluminium materials are considered for beam and appropriate loading conditions acting on beam. Creo software is used for designing of simply supported I cross sectional beam.

Keywords :—

ANSYS, Creo, Natural frequency, Mode shape, Crack, Vibrational analysis.

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Forced Convection from A Lid-Driven Square Cavity with a Sinusoidal Wavy Bottom in a Bingham Plastic Fluid

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Abstract:--

A numerical study to investigate the steady laminar forced convection flow in a lid-driven square cavity with a sinusoidal wavy heated wall immersed in a Bingham plastic fluid has been performed. The governing equations are discretized using finite element technique and are solved using the PARDISO Algorithm (Comsol 4.3a). The effect of plastic Reynolds number, $0.1 \leq Re \leq 40$, Prandtl number, $1 \leq Pr \leq 100$, Bingham number, $0 \leq Bn \leq 10$ on the average Nusselt number is investigated. The detailed flow and temperature fields in the vicinity of the sinusoidal wavy surface are examined in terms of streamline and isotherm profiles respectively. The Nusselt number shows a positive dependence on the both Reynolds and Prandtl numbers. It is observed that the average Nusselt number increases with increasing Bingham number. Simulation results are validated with the available literature.

Keywords :—

Laminar Forced Convection, Bingham plastic Fluid, Reynolds number, Bingham number, Prandtl number, Nusselt number

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Virtual Organ Technology

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Abstract:--

VIRTUAL TECHNOLOGY an highly awaiting creation of world's first virtual synthetic brain using silicon chips. To create a rebel in competitive world this attempt will gives a new path for both wire minded and medical minded youths .This paper presentation explains about creating an wireless BLUE BRAIN where the word BLUE stands for bluetooth and implementing sensory inputs by using microcells which will work like a normal blooded mammalian brain.The main aim is to upload human brain into machine.

These include cognitive functions such as language, learning, perception and memory in addition to brain malfunction such as psychiatric disorders like depression and autism. From there, the modeling will expand to other regions of the brain and, if successful, shed light on the relationships between genetic, molecular and cognitive functions of the brain.

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Design and Development of Optical Character Recognition Techniques using Genetic Algorithm

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Prof. S. B. Baga., 3rd SEM, C.S.E Department, Sri Sairam College of Engineering.

Abstract:--

Optical Character recognition is major technique in Image Processing fields which has various application in obtaining more clear character in the field of Medical, Industrial processes as well as Domestic. In this technology scanned, Handwritten, printed or typewritten text is converted into editable format to obtain its more clear digital version. Character recognition may be carried out by online and offline in online recognition stylus or electronic tablet is interface with computer to abstract information about character whereas in off-line recognition target is digitally scanned by optical scanner. In this paper I have concentrated on offline character recognition along with genetic algorithm and its advantages

Keywords:--

Genetic Algorithm ,Digitization Optical Character Recognition(OCR),Pre-processing

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Review on Public Ration Distribution System By Using Authentication OTP

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Abstract:--

Public distribution system is a conventional system that involves corruption and illegal distribution of goods. Government of India Provides a Ration card to poor and people who is below poverty line. All people having ration card to buy material from the Shop. But in conventional system some drawbacks occurs that one is the weight of the material may be inaccurate due to Human Mistakes and another , if material is not taken by any Ration card holder then shopkeepers are doing miss use of these things by selling in the market and doing the corruption and irregularities. To avoid these illegal activities. This paper proposed the concept of automatic rationing system which replaces the manual work in rationing distribution by using Authentication OTP. This provides effective system through which government gets acknowledgement of consumption of food grains by people. Government would have all required control over the transaction at ration shop. This would bring transparency in rationing distribution system as there will be direct communication between people and government.

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Internet of things (IOT)

Reji Thomas, Professor, C.S.E Department, Sri Sairam College of Engineering.

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Avinash Verma, 3rdSEM, E&C Department, Sri Sairam College of Engineering.

Aman Kumar, 3rdSEM, E&C Department, Sri Sairam College of Engineering.

Abstract:--

This presentation mainly focuses on Internet of Things (IOT).The Internet of things (IoT) is the network of physical devices, vehicles, and other items embedded with electronics, software, sensors, actuators, and network connectivity which enable these objects to collect and exchange data.

Internet of Things (IoT) is an ecosystem of connected physical objects that are accessible through the internet. The 'thing' in IoT could be a person with a heart monitor or an automobile with built-in-sensors, i.e. objects that have been assigned an IP address and have the ability to collect and transfer data over a network without manual assistance or intervention. The embedded technology in the objects helps them to interact with internal states or the external environment, which in turn affects the decisions taken.

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Life- Your Heart Speaks Your Password

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Abstract:--

The security is an important aspect in our daily life whichever the system we consider security plays vital role. The biometric person identification technique based on the pattern of the human Iris, face, fingerprint or heartbeat is well suited to be applied to access control and provides /Strong security. In this paper we focus on an efficient methodology of fingerprint, heartbeat, iris and face for identification and verification with total success rate. In this method, the image of the fragment taken is normalized and converted into binaries. The anatomy image and the series of operations such as segmentation, normalization, feature encoding is performed and it is converted into binaries. These bits are compressed and crossed over into a combined biometric key. This combined biometric key is used to bind the each bit of the cryptographic key. This bound version of the key is used for enrolment and to release the key. Instead of storing the actual key, its hashed version is stored in order to conceal the cryptographic key to provide a secure comparison method for key verification. This bound version of the key is released only if this matches with the one identically. During enrolment, these features are used to bind a cryptographic key. The operation involved is the binary XOR. Here, the goal of the system is to reject, an unauthorized subject who does not possess the original features, for example, used during enrolment. In contrast, a genuine subject with the correct features will be accepted. By this spoofing can be avoided, since two kinds of keys are needed to encrypt the data and these keys are generated at once. This reduces the false acceptance rate and false rejection rate thereby the total success rate seems to be high since the key preserves security level to high..

Keywords: -

Biometric key, Cryptographic key, Helper data, Hashed key.

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Underwater Autobot

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Abstract:--

This System is based on making a vehicle that looks exactly like a water animal and can move inside the water exactly like as the water animal does. This type of project is being developed by us to overcome the problem of the naval forces serving deep inside the sea. It reduces the effort of the human and can be controlled through a single server from any place. It uses IoT approach and also a wireless approach if internet is not available and a live feed can be obtained through the project to monitor the places and it is also a cost effective project one time implementation project rather than spending on big submarines and Cargo ships. We can take immediate actions after seeing the type of situation. We can also use this project to monitor and examine the underwater activities and to discover new materials down the earth to search for ship wreck and other materials that go deep inside the ocean and cannot be handled by humans. Later on this project can be modified to make it an autonomous vehicle using the artificial intelligence so that it can decide itself to take actions. Whenever possible human can take control on it as soon as the situation comes to handle it.

Keywords:--

IoT, Monitor, Wireless, Autonomous.

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Electronic Healthcare Consultation System (E-Consults)

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Prof. Pradeepa C., Asst.Professor, Dept. of CSE, SSCE, Bengaluru, India

Abstract:--

One of the main issues in the modern society is maintaining health and so we make it modernized and self-usable for all people. The aim of this project is to bring healthcare to people in need. People in rural areas can use this system to connect to internet from a center and answer some questions to get some medical advice and keep their health record clean. If it is minor it suggests medicines or also gives doctor contacts.

E health care is a new trend that is recently came in to use with the available of new electronic and software applications. We are developing a web based healthcare system in order reach every single person who is in need. Few software used in this are Java, PHP and MySQL. A brief description of this system, a patient in need logs in through an Id they create. Then the person has to answer a series of questions related to health. The system gathers all the answers, analyses and manipulates and gives a most appropriate answer. It either gives a health issue according to it the person could go ahead or if it thinks it's more of a serious issue it gives contacts of doctors related to it. This system also holds all the records of that particular logged in patient's account.

Keywords:--

E health, Modernized, Self-Usable.

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Traffic congestion reduction, automatic accident detection and ambulance rescue alerts using smartphone and WSN.

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Mrs. Nisha M S., Asst. Professor, C.S.E Department, Sri Sairam College of Engineering.

Ms. Rekha C., 3rdSem, C.S.E Department, Sri Sairam College of Engineering.

Ms. Swetha S., 3rdSem, C.S.E Department, Sri Sairam College of Engineering.

Ms. Shubha R., 3rdSem, C.S.E Department, Sri Sairam College of Engineering.

Mr. Harish S., 3rdSem, C.S.E Department, Sri Sairam College of Engineering.

Abstract:--

Number of vehicles in our country has exponentially increased but the traffic control systems have not developed in that phase. Therefore it is the time to shift from fixed timer mode to an automatic system. In this paper we are proposing a traffic congestion reduction system and an automatic ambulance rescue alert system. Taking into account that user are using smartphones with internet connection. There is a good opportunity to put forth our architecture for WSN using Smartphone's. This also aims in finding the place or location of accident and reporting the location of accident to the nearest ambulance. The vehicles position in the form of latitude and longitude co-ordinates will be sent to road transport officials through internet. The location spot is retrieved using "GLOBAL POSITIONING SYSTEM". This technology also helps to inform about accident to nearby hospital/ambulance service immediately.

Keywords:--

Wireless sensor, smartphones, GPS and GSM.

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4th International Conference On Chip, Circuitry, Current, Coding, Combustion & Composites

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Industrial Automation Using Internet of Things (IOT)

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Pavithra N., UG Scholars ,Dept. of Computer science & Engineering, SSCE, Bengaluru.

Adithya Prabhu A., UG Scholars ,Dept. of Computer science & Engineering, SSCE, Bengaluru.

Nisha M S., Asst. Prof. ,Dept of Computer Science & Engineering ,SSCE,Bengaluru.

Abstract:--

In this paper we have presented present status of industrial automation using IOT. The internet of things is a network of physical object that contain embedded technology essence communicate with extrinsic environment. The industrial internet of thing is part of internet of thing that focuses on devices and object used in business setting. The vision of the Internet of things has evolved due to a convergence of multiple technologies, including ubiquitous wireless communication, real-time analytics, machine learning, commodity sensors, and embedded systems. No ways to detect un-even condition. Manual intervention required for monitoring. CCTV used which only monitor but no Alert generation. It helps to connect everything around you to internet including wearable devices, metering devices and environmental sensor. This paper summarizes the current applications and implementation of IOT in automation industry. In future we hope that IOTs will further enhance and make a revolution in industry and also in home appliances.

Keywords:--

Automation, IOT, sensors, Artificial intelligence, Embedded electronics.

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Traffic Control in 4G Technology through Iterative Server

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Nayana.A., Assistant professor, Mechanical department, Sri Padmavati Mahila Visvavidyalayam, Tirupati- 517502.

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Abstract:--

As mobile communication has developed rapidly .The increasing dependency of people on telecommunication resources is pushing the present technological developments in the mobile world. In Real-time multimedia applications, such as Live Television or live movie, video conferencing, VoIP, on-line gaming etc. are exciting applications to the success of 4G. In today's Internet these applications are not subject to traffic control, therefore the growth of popularity of these applications may risk the stability of the Internet. In this paper, we present a novel model to solve the network traffic problem through iterative server. In this model, when a client send a request to server then server will generate an individual iterative server for requesting client. After completing the request, the iterative server will be automatically be destroyed.

Key Words: -

Iterative Server, Traffic Control, iterative server.

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Artificial Intelligence

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Anil Kumar., , Department of Computer Science, Sri Sairam college of Engineering, Anekal Bengaluru

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Abstract:--

This paper reviews the meaning of artificial intelligence and its various advantages and disadvantages including its applications. It also considers the current progress of this technology in the real world and discusses the applications of AI in the fields of heavy industries, gaming, aviation, weather forecasting, expert systems with the focus being on expert systems. The paper concludes by analysing the future potential of Artificial Intelligence.

Index terms:--

Turing Test, Gaming Industry, Weather Predictions, Expert System

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An Unsolicited Heart Stroke Alert System for Humans

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Sheela.L, CSE Department, Sri SaiRam College Of Engineering, Anekal, Bangalore: -562106.

Abstract:--

Health care for the elderly are one of promising application fields of IoT. Among them, detecting and preventing indoor heat stroke conditions is a crucial issue. We propose a method for monitoring indoor environment, detecting any risky conditions, and then effectively warning them to the elderly. Since elderly people have different physical weaknesses such as low vision and poor hearing, we designed and developed a system for alerting the elderly through multi-sensory information presentation. It can convey risky situations to the elderly via visual, auditory, and tactile stimuli.

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Pipe Scales and Biofilm Formation Measurement Using Sensors

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Abstract:--

According to the Urban Drinking Water Distribution Systems (UDWDS) safety and security are two important features. People often compromised by a suite of physical, hydraulic, and chemical factors adversely impacting quality of potable water reaching consumer taps. Scales and biofilm conglomerates (SBC) with sorption of water chemicals and planktonic microorganisms are recognized as underestimated contaminant sources in aging pipe networks of UDWDS. The main aim of this study was to provide an updated review of processes and factors associated with the increasing the frequency of deteriorated finished water quality as a result of SBC effects in UDWDS. Important synergistic SBC effects on finished water quality were identified as: Those containing chemical release from pipe scales due to biofilm-induced alterations at the pipe surface/water interface. The synergistic SBC action on promoting increased release rates of toxic chemicals or pathogens into water. The microbial enhanced corrosive phenomena on pipe scales and their constituents.

Keywords:--

biofilms, drinking water,environmental health,exposure, pipe scales, urbanization

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Cryptographically Securing the Data Transfer to Cloud from Mobile Devices Using CSPRN Generation

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Abstract:--

The way we store and share data has been revolutionized with the help of mobile device and its applications. It is now becoming warehouse to store personal information of the user. The data stored here are mostly in encrypted format, resulting in security threats. In this paper, we propose a protocol called CLOAK which is computationally efficient and light in weight for the mobile devices. CLOAK is based on stream cipher that generates and distributes cryptographically secure pseudo-random numbers (CSPRN) with the help of external devices. Here we use the concept of symmetric key cryptography to enhance the security of the protocol. There are three versions of protocol referred as d-CLOAK, s-CLOAK, r-CLOAK, and these protocols differ on the basis of key selection procedure. To secure data at its origin a core encryption/decryption of a CLOAK is performed within the mobile devices. Here deception method is used ensure the security of CSPRN. Using mutual identity verification all messages are exchanged securely between mobile and the server in a CLOAK. We use android smartphones to evaluate CLOAK, and for generating CSPRN we use Amazon web services

Key words: --

mobile devices, mobile cloud computing, stream cipher, encryption, decryption, security, cloud computing.

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Survey on Automation system using Raspberry Pi-3 (IOT)

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Abstract:--

Automation plays an important role in science fiction writing, but has only become practical, since the early 20th Century, due to introduction of electricity into the Office cabin and the rapid advancement of information technology. Automation can control application by using the Raspberry-Pi. The main aim is to control the electrical appliances in office cabin by using internet, so it is used to interface Raspberry Pi with Wi-fi. The Raspberry Pi is interfaced with Sensors to sense the atmospheric conditions. It is also interface with user which can be turned ON/OFF by the controller using the IOT. Raspberry Pi has inbuilt Wifi. Wifi can be given from nearest broadband connection or mobile. IOT using raspberry pi to the user having the android app. The authentication is in our hands ,i.e if we want to send the specific person inside the house, standing in front of the door then we can give permission to open the door, Software system can be built in three various programming languages and can be controlled via the internet using webpage protected with a username and password to make sure that it cannot be hacked..

Index Terms:--

Home Automation, Raspberry-pi-3, Internet Of Things(IOT), PIR sensor.

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Smart Hospitals Using Internet of Things (IOT)

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Raju K R, UG 3rd SEM, CSE dept, SSCE

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Abstract:--

This presentation about smart hospitals using iot. Most of the time, due to negligence of hospital staff, excessive number of patients or inactiveness of relatives it may cause heart attack due to “AIR EMBOLISM”. In a hospital, number of electrical equipments (fan, lights) is more so usage of energy is also more. Thus, its is important to use electricity as per the requirement. Thus, in this paper we have proposed a system which includes combination of sensor technology and IOT. Using this system one can control switch of the electricity and monitor level of the saline bottle from distant position.

Keywords:--

Internet of things, Atmel 328pu, ultrasonic sensor (HC-SR04), Temperature sensor (LM35), light dependent resistor (LDR), MQTT protocol.

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Vanadium Dioxide as Cooling System for Smart Window Systems and Chipsets

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Sharath Kumar M, Department of Mechanical Engineering, Sri Sairam college of engineering , Bangalore.

Supreeth D V, Department of Mechanical Engineering, Sri Sairam college of engineering , Bangalore.

Gurunandan H M, Department of Mechanical Engineering, Sri Sairam college of engineering , Bangalore.

Aruna Shanbhog, Prof, Department of Mechanical Engineering, Sri Sairam college of engineering , Bangalore.

Abstract:--

We choose this because of two main reasons -

1. It is a compound which conducts electricity and avoids conducting heat.
2. It is thermochromics i.e. it absorbs rays like infrared (heat to be specific) and emits it in form of change in colour
3. and is anti-reflection at different temperatures.

Its unique chemistry which converts the basic structure monoclinic to rutile i.e. semiconductor to metal transition, which means the conductivity of the VO₂ increases drastically with the threshold temperature of 68 C for other wavelengths from yellow to ultraviolet. But specifically, for infrared(680nm) as 80 C makes its application wider.

Index Terms:--

Thermochromics, -reflection, monoclinic, rutile.

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Effect of Mesh Adaption on Rolling Element Bearing

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Prof. Vaibhav Pawar., Assistant Prof. Pillai HOC College of Engineering &Tech, Rasayani, Mumbai.

Abstract:--

The main objective of the present work is to investigate Finite Element Analysis of Rolling Element bearings as well as the effect of meshing on the component. A study was performed to examine the influence of varying mesh density on Deep groove Ball Bearing. For each simulation, the same material properties and impact conditions were specified and only the mesh density was varied. Contour plots of resultant panel displacement and effective stresses in the foam were compared at four different mesh sizings.

Modern trend of Dynamic analysis is useful in early prediction; simulation of rotor bearing system as manufacturing of prototype is time consuming, costly, and required further analysis for fatigue failure. Dynamic analysis has become a very powerful tool for the betterment of the actual performance of the system. The methodology for prediction and validation of the characteristics of bearing rotor system is studied. ANSYS software is one of the promising tool for the modeling and analysis of the bearing rotor system with respect to meshing method which has adapted. Experiment result has been taken for the analysis. There is need for analysis of the Rolling Element bearings to find out the reasons of its failure using the FEA analysis. In this study a static analysis is conducted on the bearing. Finite element analysis is performed to obtain the variation of stress magnitude at critical locations.

Keywords:—

Bearing kinematics, Rolling element bearings, Stiffness Matrix, Stress Analysis, ANSYS.

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Soft Computing Applications in Bioinformatics: A Succinct Study

Satya Narayan Das., Gandhi Institute of Engineering and Technology Gunupur, Odisha,

Sushruta Mishra., C.V. Raman College of Engineering, Bhubaneswar, India.

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Abstract:--

Bioinformatics is recent trend of research in 21st century. In spite of a large number of methods implemented in bioinformatics problems as well as many successful applications, we are in the beginning of a process to massively integrate the aspects and experiences in the different core subjects such as biology, medicine, computer science, engineering, chemistry, physics, and mathematics. Recently the use of soft computing tools for solving bioinformatics problems has started to gain momentum since it can handle imprecision, uncertainty in large and complex search spaces. Our study will focus on integrative research on soft computing paradigm in bioinformatics with particular emphasis on its wide applications.

Keywords:—

Bioinformatics, Soft computing paradigm, Artificial neural network, Fuzzy logic, Genetic algorithms, Bioinformatics tools

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Nano composites and Their Applications

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Abstract:--

This paper/document gives the information regarding a brief introduction to nanocomposites, types of nanocomposites and their general applications. The idea behind Nanocomposite is to use building blocks with dimensions in nanometer range to design and create new materials with unprecedented flexibility and improvement in their physical properties. In the broadest sense this definition can include porous media, colloids, gels and copolymers, but is more usually taken to mean the solid combination of a bulk matrix and Nano-dimensional phase(s) differing in properties due to dissimilarities in structure and chemistry. The mechanical, electrical, thermal, optical, electrochemical, catalytic properties of the nanocomposite will differ markedly from that of the component materials. Size limits for these effects have been proposed

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Static And Buckling Analysis of Fuselage Panel under Varied Flight Condition's

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Sujith Kumar S G, Assistant Professor, Department of Mechanical Engineering, T John Institute of Technology, Bangalore-560083

Bommanna K, Assistant Professor, Department of Mechanical Engineering, T John Institute of Technology, Bangalore-560083

Sridhar CS, Assistant Professor, Department of Mechanical Engineering, Sri SaiRam College of Engineering, Bangalore-562106

Abstract:--

Designers need to guarantee the security of structure all through administration life for which structure is being designed. To guarantee wellbeing of the structure, designer ought to first see how a structure would fall flat. There are two sorts of disappointments one is material disappointment other is basic disappointment. Buckling drops into the classification of auxiliary disappointment approach. Fuselage is part, which houses the travellers and load on account of a common transport air ship. For the most part it is a barrel with orthogonally hardened developed development. The flying machine will be in harmony at any moment of time amid flying. Fuselage will encounter fundamentally the latency and pressurization loads. This anticipates incorporates a linear static and linear buckling investigation of the front fuselage assembly. Contingent upon mass dissemination of the fuselage structure the dormancy strengths will change along with length of fuselage. Inactivity power dissemination creates fuselage to twist descending around wing hub. This bending of fuselage will make strain and pressure in upper and lower fuselage hardened boards individually. Current study incorporates, the topic of pressure buckling of boards in base part of fuselage. A linear static investigation will be done on section of front fuselage assembly with circulated air weight following up on it. Boards with greatest pressure burden will recognized as basic boards for buckling investigation. Pivotal pressure weight following up on every board be separated from the static investigation. Established methodology will be taken after to figure the basic buckling weight on every board. These counts will be verified by board buckling investigation through finite element met

Keywords:--

fuselage panel, Buckling Analysis, Static analysis, Mach number

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Energy System and Control Techniques for Solar based Energy Efficient Smart Room: A Review

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Abstract:--

Smart room is a room that uses sensed data to monitor the environment to control the electrical appliances and connects with the external world. The rising demand for room automation has led to the escalating number of research projects in this field. The important gain in energy utilization and the rapid advancement of sustainable power energy, for example, solar power, have brought tremendous challenges to energy security and environment. Meanwhile, the improvement of energy systems toward a more intelligent direction is also stimulated. The main objective of this paper is to identify the energy management system, and communication and networking techniques. This paper also reviews the different control systems and sensors used in the implementation of smart rooms.

Keywords:--

Smart room, energy management system, communication and networking techniques, control system

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Crop Prediction and Smart Agriculture System

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Brinda S R., Department of Computer Science, C Byregowda Institute of Technology, kolar

Abstract:--

As agriculture is the backbone of India, there is need of modern technology for efficient practice of agriculture. Smart Agriculture helps to reduce wastage, Optimize water consumption, effective usage of fertilizer and thereby increase the crop yield. This is accomplished using the technology where chemical composition of the soil is measured continuously and monitored. Soil nutrient measurement is necessary for proper plant growth and effective fertilization. The nutrient properties of the soil are analyzed in real-time and determine the crop suitable for the soil type. This system is also developed to monitor crop-field using sensors (soil moisture, temperature, humidity, Light) and automate the irrigation system. The data from sensors are sent to Web server database using wireless transmission. The irrigation is automated if the moisture and temperature of the field falls below the brink. The notifications are sent to farmers' mobile periodically. The farmers' can able to monitor the field conditions from anywhere. This system will be more useful in areas where water is in scarce. An arduino is used to build the system. System will suggest the crops based on the measured chemical properties.

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Super Resolution to Enhance Low Resolution Imagery to High Resolution

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Brinda S R., Oxford College of Engineering, Bengaluru, Karnataka

Abstract:--

Our paper focuses on dynamic restoration of low resolution camera images by converting them to high resolution images for displaying in modern age consumer devices. The proposed approach is more suitable for consumer application devices because of its simplicity and less computational complexity. The approach is novel in its technical contribution which is proven by comparison with other state of art existing methods. In this paper we propose regulation based super resolution algorithm. The filling of empty pixel patches in the high resolution images is made using dictionary learning. The main contribution of the proposed algorithm lies in the order of filling the empty pixel patch for each location for which we take into consideration, the directional property based on orientation of gradients. This property allows us to rank the pixel patches accordingly, so that the filling process leaves very few patch boundary artefacts. For effective representation of zero pixels sparse approximation is used. With the use of code analysis we make a comparison between bicubic interpolation and sparse representation. To perform sparse representation we make use of linear algebra and the relevant formulae. Different stages of the MATLAB code which is framed to perform sparse representation has been analysed with an example. Gradient features of the images are obtained and patches are formed. With reference to the dictionary preloaded we load the empty patches with the approximate images.

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A Comparison of Basalt Fibre with that of Basalt (Rock) for a Composite Application

R Ranjith Kumar., Scholars of Sri Sairam College of Engineering

Rajnish R Dubey., Scholars of Sri Sairam College of Engineering

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Abstract:--

In the present days technological life the components with composite material is growing every year more than 10 % throughout the world. One of the basic reinforcing elements of composite materials is fibers because fibrous materials are widely applied in quality of thermal, sound-proof, strength and so on. Another basic reinforcing elements of composite materials is particulates in the form of flakes or short fiber, these material size and structures vary from Nano to micro depending upon the application. The present investigation is to have a comparison between the Basalt rock properties with that of Basalt fibers for several applications

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Use of Mathematics in Economy (Mathematical Tools in Analyzing Economy)

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Abstract:--

As mathematics is the area which is widely used in almost all the areas of the life. Our main aim here is to know where still we are lagging in using the mathematics for economic analysis as it is very important topic of the current period. So on that contribution of mathematics to the area of economy is considerable. In this paper we will pass the light on the tools which are vastly used in finding the factors related to the economy and also to analyse the economy. There is discussion on how these tools helps in finding the factors (GDP, Interest Rate, Inflation, Repo Rate, Reverse Repo Rate etc.) and analysing the economy. Here we are also going through the drawbacks in the mathematical tools (Forecasting using Statistical methods such as Means, Regression Correlation, Percentages, Graphical Methods) while using in analysis. Finally, we will discuss and analyse the improvements need to increase the accuracy of the results and to reduce the mistakes in the results of the economic factors which are part of economic analysis.

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Applications of Integral Calculus in Engineering

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Richa Yadav., Dept of Electronics and Communication Engineering, Sri Sairam College of Engineering, Anekal, Bengaluru, India

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Abstract:--

In this chapter we are going to study about the history and the applications of integral calculus. Isaac Newton and Gottfried Leibniz independently discovered calculus in the mid- 17 century. Integration represents the inverse operation of differentiation. Integral calculus is used to improve the important infrastructures. Integral calculus is often used to create the most robust design.

At the end of this chapter we will come to know about the basic applications of integral calculus in engineering field which are:- Average function value, Area between two curves, Volume of solid of revolution/ Methods of rings, Work done.

Keywords:--

Definite integral, Fundamental theorem of calculus, Line integral, Average function value, Area between two curves, Volume of solid of revolution/ Methods of rings, Work done

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Mathematical Modelling of Population Growth

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Abstract:--

We cannot have a sustainable planet without stabilizing population. As human population increase, humans demand for resources like water, land, trees, and energy. Unfortunately, the price of all this “increase and demand” is paid for by the other endangered plants, animals and natural resources in an increasingly volatile and dangerous climate. This necessitates a mathematical model to predict the future population in terms of growth rate and population figures with reasonably virtuous accuracy. Mathematics being one of the languages of sciences, Mathematical models can predict the behaviour of systems based on physics, chemistry, biology etc. There are certain mathematical models to effectively predict economic and social systems including the population growth. The present work deals with mathematical modelling of population growth using exponential and logistic growth model, which is nothing but the differential equations, with which we can study the changes in size of populations through time, which helps us predict the population of a certain place at a certain time. The prediction is compared with the actual population of the past, based on the model which predicts the population with better accuracy, which can be used to predict the growth rate of the future population.

Keywords:--

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

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Mathematical Modelling of Blood Glucose Level By Glucose Tolerance Test

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Abstract:--

A complete description of the response of man to large doses of glucose involves the use of more than sixteen rate constants the response of blood-glucose concentration (G) as a function of time (t) can be represented adequately by an equation involving only four constants in the equation: $G=G_0+Ae^{-\alpha t} \sin \omega t$. The values of these four constants are defined by the four measurements usually made in an ordinary glucose-tolerance test. A new mathematical model for Blood Glucose Regulatory System(BGRS) which includes epinephrine as a third variable in the form, $Y' = AY$, and whose solution has been analysed for equilibrium and stability to provide the blood glucose concentrations for diabetics and non-diabetics. The glucose-insulin regulatory system in relation to diabetes is given, enhanced with a survey on available software. The models are in the form of ordinary differential, partial differential, delay differential and integro-differential equations. The human body needs continuous and stable glucose supply for maintaining its biological functions. Stable glucose supply comes from the homeostatic regulation of the blood glucose level, which is controlled by various glucose consuming or producing organs. Commonly observed combinations of parameter values, the coupled model would not admit equilibrium and the concentration of active insulin in the "distant" compartment would be predicted to increase without bounds. For comparison, a simple delay-differential model is introduced, is demonstrated to be globally asymptotically stable around a unique equilibrium point corresponding to the pre-bolus conditions, and is shown to have positive and bounded solutions for all times.

Key words:-

Mathematical Modelling, Blood Glucose Regulatory System, Glucose Tolerance Test, Ordinary Differential Equations and Partial Differential Equations.

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Mathematical Modelling Of Predator-Prey Equations

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Abstract:--

The paper intends theoretical and mathematical aspects of the known predator-prey problem that are considered by relaxing the assumptions that interaction of a predation leads to little or no effect on growth of the prey population and the prey growth rate parameter is a positive valued function of time. Prototypes may lead to the most engrossing and conspicuous mathematical result but only those prototypes are enduring which can expound envision or regulate the milieus. A variation method is used to build a numerical solution by differential equations. The dependence of amplitude and a frequency of damped vibrations on parameters characterizing the mobility of species is estimated. Derivations and simulation studies are provided in the paper. Analysis of equilibrium points and stability is also included.

Keywords:--

Mathematical modelling, variation methods, numerical solution, differential equations and Simulations.

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Autonomous Navigation of Automobiles in Urban Cities

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Abstract:--

Autonomous navigation of automobiles is an emerging research area in which many researchers from have contributed in different domains. One of the major challenges in navigating in urban cities is avoiding collision in heavy traffic. The GPS position estimates given by GPS receivers is not up to mark for navigating the automobiles. This is due the fact that GPS satellite signals got reflected or occluded from the surrounding buildings. In this work, three dimensional images are used to capture the map of the environment around GPS receiver. This map is used to identify the reflected signals and to exclude those signals from position calculation. Experiments done in urban scenario validate the method. The position estimates are significantly improved with removal of such signals.

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“Studies on Mechanical & Wear behavior of Aluminium Matrix Composite reinforced with Cenosphere”

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Dr. Mohammed Haneef, Principal Ghousia College of Engineering

Abstract:-

Composites are most successful materials used for recent works in the industry. Metal composites possess significantly improved properties including high tensile strength, toughness, hardness, low density and good wear resistance compared to alloys or any other metal. There has been an increasing interest in composites containing low density and low cost reinforcements. Aluminum metal matrix composites (AMMCs) are finding extensive commercial applications in various sectors such as space, automobile and structural industries, due to their high strength, high stiffness, and better wear resistance, particularly when component weight reduction is the key objective. Among various reinforced materials used, Cenosphere is one of the most inexpensive and low density reinforcement available in large quantities as waste product during combustion of coal in thermal power plants as well as in the brick factory and rice mill. Hence, composites with fly ash with Al 7075 as reinforcement are likely to overcome the cost barrier as well as the different physical and mechanical properties for widely used in the automotive and space craft applications.

. Hybrid Metal Matrix is one of the important innovations in the development of advanced materials. Among all the various metal matrix materials, aluminium and its alloys are widely used in the development of the MMC's. One of the most commonly used aluminium alloy for structural applications is Al 7075, due to its attractive comprehensive properties such as low density, high strength, ductility, toughness and resistance to fatigue. It has been extensively utilized in aircraft structural parts and other highly stressed structural applications. Aluminium reinforced with conventional ceramic materials such as SiC / Al₂O₃ are gradually being implemented into the production of pistons, cylinders, engine blocks, brakes and power transmission system elements in automobile industry. Cenosphere contains (SiO₂, Al₂O₃, Fe₂O₃ as major constituents and oxides of Mg, Ca, Na, K etc. as minor constituents) is one of the most inexpensive and low density material which is abundantly available as solid waste by-product during the combustion of coal in thermal power plants. Graphite, in the form of fibres or particulate has been recognized as a material having high strength, low density, low co-efficient of friction and lower wear rate.

Key words:-

Aluminum Matrix Composites, Cenosphere, Stir Casting, Hardness, Wear

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Use of Pneumatic Conveyor in Food processing Industries

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Abstract:--

Pneumatic conveying of low density materials generally powders, is a clean and dust-free method of atomized bulk material handling. When production capacity required to be transferred is higher, shortage of labor causes production downtime, or there is an increase in labour costs, bulk material system automation is a solution. A vacuum pneumatic conveying system for bulk materials consists of a feed-in point system such as a bag tipping station or a big bag discharge station, a dosing device and a receiving volume equipment often a vacuum receiver or a vacuum scale. The heart of the vacuum pneumatic system is the vacuum blower, which when started generates a vacuum in the pipe causing bulk material being transferred to the receiving vessel. The receiver with the help of an air filter separates bulk material and conveying air. Depending on the need and application to be used for different filter materials can be utilized. In case of long distances or high bulk material throughputs, pressure conveying systems are used. The pressure blower generates the conveying air. A rotary air valve doses the bulk material into the conveying air after passing through an air cooler. It results in a higher throughput while less manual work is consumed. It helps in precise weighing of powder ingredients reduction of human error to reduce waste production, dust free handling of powder bulk materials and fulfilling hygienic standards. It also helps in maintaining a constant good quality of the mixed product and tracking and tracing contaminants present in a batch system.

Key words:-

Pneumatic Conveying, Blower, Vacuum, Rotary Valve

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Mathematical Modelling of Traffic Flow on Highway

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Abstract:--

This paper intends a mathematical model for the study of traffic flow on the highways. This paper develops a discrete velocity mathematical model in spatially homogeneous conditions for vehicular traffic along a multilane road. The effect of the overall interactions of the vehicles along a given distance of the road was investigated. We also observed that the density of cars per mile affects the net rate of interaction between them. A mathematical macroscopic traffic flow model known as light hill, Whitham and Richards (LWR) model appended with a closure non-linear velocity-density relationship yielding a quasi-linear first order (hyperbolic) partial differential equation as an initial boundary value problem (IBVP) was considered. The traffic model IBVP is a finite difference method which leads to a first order explicit upwind by difference scheme was discretized.

Key words:-

Mathematical modeling, traffic flow, Homogeneous conditions, Multilane road, Velocity-density, Quasi-linear first order (hyperbolic) partial differential equation, Finite difference method.

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Transfer Matrix Method for Precise Determination of Thicknesses in A 150- Ply Polyethylene Composite Material and Other Materials

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Abstract:--

The multilayer structure of an ultra- high molecular weight polyethylene composite material was investigated in the terahertz (THz) spectral range by means of time domain spectroscopy (TDS) technique. Such structures consist of many alternating layers of fibre (~150), each being perpendicular to the other and each having thickness of about 50 micrometer. A transfer matrix method (TMM) and a time domain fitting procedure were used to determine thickness of all layers of the composite material with high accuracy. We apply this technique for various other materials.

Key words:-

Time Domain Spectroscopy, Acoustic Waves, Transfer Matrix Method.

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Nano Technology in Waste Water Treatment

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Abstract:--

One of the most interesting things about nanotechnology is that the properties of many materials change when the size scale of their dimensions approaches nanometres. Materials scientists work to understand those property changes and utilize them in the processing and manufacture of materials at the nanoscale.

Nanotechnology might be able to increase the retrieve of waste water, but the most promising application of nanotechnology is the reduction of cost for recycling plant. Nanotechnology in Waste water treatment in turn reuse, save water, avoid water scarcity and pollution causes due storage of water in open places. This paper provides an overview of Nano technology in the waste water treatment and effective usage of the same.

The potential implications that these technologies would have on our society are also discussed. Most of the engineering and science, major research process are carried out with nanotechnology. Nano science and engineering is at the heart of it across all disciplines. For those who are passionate about nanotechnology, Material science and engineering is place for the most research, coursework, and experience in nanotechnology.

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NANOCOMPOSITIES

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Abstract:--

The definition of nanocomposites has broadened significantly to encompass a large variety of systems such as one-dimensional, two-dimensional, three-dimensional and amorphous materials, made of distinctly dissimilar components and mixed at the nanometer scale. This research presents a detailed definition of nanocomposites, its origin, classification, properties, benefits, as well as its future. With the proper choice of compatibilizing chemistries, the nanometer-sized clay platelets interact with polymers in unique ways. The paper shows that the application possibilities for packaging include food and non-food films and rigid containers. In the engineering plastics arena, a host of automotive and industrial components can be considered, making use of lightweight, impact, scratch-resistant and higher heat distortion performance characteristics. In plastics the advantages of nanocomposites over conventional ones don't stop at strength. The high heat resistance and low flammability of some nanocomposites also make them good choices to use as insulators and wire coverings.

Key words:-

Nano composites, nanoparticles, bio mineralization, nanomer, polymer.

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BIOFUEL

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Abstract:--

Bio fuel – An alternative source of energy for present and future .In present scenario there is a huge demand for various oils and their high prices is an apprehension for the mankind. Since there is an increased awareness for eco-friendly issue, there is an urgent need to explore the alternative energy sources. Various alternative energy sources like nuclear power, solar, wind, bio fuels are well known, where bio fuel sounds as one of the in terms of usage and the production process .Biofuel is the process where energy of organic materials (Renewable biomass) is replaced with function of fossil fuels. Processes like trans-esterification which converts animal and vegetable oils into usable fuel forms. From different sources, algae, produces a large amount of energy. Algae represent as the significant group of biological systems, where few of them are known to produce vast quantities of lipids relative to their total biomass. However, it is important to note that the technology has so far not been sufficiently developed to allow these biofuels to be produced commercially. Economics is playing a crucial role in ensuring a smooth transition to a Biofuel future.

Keywords:-

trans-etherification, algae, biomass

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Comparative studies of Corrosion Inhibitive Properties of Benzofuran-2-carboxylic acid & Amla Leaves Extract On Mild Steel in Acid Media

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Abstract:--

The effects of Benzofuran-2-carboxylic acid (BF) & Amla (*Emblica officinalis*) leaves aqueous extract as corrosion inhibitor, behavior of mild steel has been investigated in hydrochloric acid solutions containing Experiments were performed by weight loss method for different time intervals and at room temperature. The inhibition efficiency of Benzofuran-2-carboxylic acid was found to increase with inhibitor concentration and also in the presence of sodium bromide and sodium iodide. Inhibition efficiency was found to increase with increasing concentration of inhibitor (0.2 g /l to 10 g/l) for 6 hour at room temperature. The maximum inhibition efficiency of *Emblica officinalis* leaves 87 % in 1 N Hydrochloric acid. From the comparative studies, it was investigated that the corrosion inhibition efficiency of *Emblica officinalis* leaves aqueous extract is approximately equal to that of Benzofuran-2-carboxylic acid in hydrochloric acid. This may be due to the presence of wide variety of compounds like, tannins, alkaloids and phenols in *Emblica officinalis* plant. The adsorption process was found to obey the Langmuir adsorption isotherm.

Key words:--

Benzofuran-2-carboxylic acid; sodium bromide; sodium iodide; 1.0M H₂SO₄, *Emblica officinalis* leaves

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Bandwidth Extension of Speech Signal:A Review

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Ninad Bhatt., Professor & Head, EC Dept., C.K. Pithawala College OF Engineering & Technology, Surat, Gujarat, India.

Abstract:--

Restricted audio quality of today's telephone network is mainly due to the narrowband limitation to the frequency range from about 300 Hz to 3.4 kHz. Bandwidth extension is used to extend narrowband frequency range to wideband frequency range which is 50 Hz to 7 kHz and wideband frequency range to super wideband frequency range which is 50 Hz to 14 kHz. This bandwidth extension can be realized with or without some low bit rate side information. In Bandwidth extension missing frequencies of the signal are added artificially at the receiver using only the information contained in narrowband signal or either using the side information transmitted. This paper addresses the basic principles of bandwidth extension and discuss different methods of bandwidth extension from narrowband to wideband and narrowband to super wideband.

Keywords:—

bandwidth extension; narrowband; wideband; super wideband

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XRD And Raman Study On 50% Of Fe₂O₃ +50% Of B₂O₃ GLASS

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Abstract:--

A black and hard glass sample have been synthesized by using 50%Of Fe₂O₃ +50%Of B₂O₃ glass. The material is examined by XRD and Raman Phase identification. Crystalline structure of 2phases material conformed by XRD peakes which are corresponding to 50%Of Fe₂O₃ +50%Of B₂O₃ system and crystal structure is rhombihedral. The existing results are conformed on the basis of exsting theories

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Experimental and CFD analysis of Heat Sink with Al-Cu in CPU Cooling

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Dr. S. Ramamurthy., Professor and Guide, CET, Jain University, Bangalore

Prerana.E., Asst prof, mech dept, kctec, kalaburagi.

Abstract:--

A heat sink device for use with thermal load of 20W, temperature of the heat source rises by 100C dissipating heat into the atmosphere. Heat sink performance is measured in 0C /W, ie rating of 100C/20W, =0.50C/W. A cooling unit comprising a heat radiating plate and an electric fan device. The heat radiating copper base plate has thermal conductivity of 400W/mK and comprises a heat receiving portion a Aluminum fin with thermal conductivity of 205W/mk and a heat exchanging portion, (fan) which are arranged side by side. Tapered solid fin configuration is been considered for testing by experimental and CFD simulation methods. With base of 5mm & tip dimensions varying as 1.5mm, 2.00mm, 2.5mm

Keywords:--

Heat sink, IC's, cooling fan, fin configuration, heat dissipation rate, fidelity, Geometrics, CFD simulation

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4th International Conference On Chip, Circuitry, Current, Coding, Combustion & Composites

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Wireless Smart Automation Using IOT Based Raspberry Pi

Akash Dee., Manipal Institute of Technology, Manipal-576104, Karnataka, India

Vasu Goel., Manipal Institute of Technology, Manipal-576104, Karnataka, India

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Yedukondala Rao V., Manipal Institute of Technology, Manipal-576104, Karnataka, India

Abstract:--

In this paper we proposed a smart door lock system and lighting system for home automation. This door lock system and lighting system is controlled by Radio Frequency Identification (RFID) reader which is programmed by Raspberry Pi to detect the input swipe through our university combo card or a RFID tag and wirelessly sends the signal to the Espruino (ESP) Wi-Fi module and Node Microcontroller Unit (MCU) which in turn activates the lighting system and door lock system. The mainstream application of the system will be in hostel rooms or in our homes wherever door locks are there so that doors can be opened anytime we want without disrupting our work or getting up from our places in case of any injury with a swipe of card

Keywords:--

IOT; Raspberry pi, RF ID, Home automation

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4th International Conference On Chip, Circuitry, Current, Coding, Combustion & Composites

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Application of Vectors

Manjula S., 1st Semester, Department of Computer Science and Engineering, Sri Sairam College of Engineering, Anekal, Bangalore.

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Priyam Kumar S., Assistant professor, Department of Science and Humanities, Sri Sairam College of Engineering, Anekal, Bangalore.

Abstract:--

This presentation deals with the day to day life application of vectors. Vectors are one the technique that an individual deals from beginning of their educations. Navigating a person to go to a particular location is a type of vector application. Identifying someone location in earth in terms of latitudes and longitude also comparing to the height of sea level is a form of vector. We are also going to discuss the various ways in which an individual apply vector in their routine without their own remembrance. In this presentation, we give a brief idea about the uses of vector like different cases of rain umbrella, projectile application and relative velocity concepts in our surroundings.

Keywords:--

Longitude and latitude, projectile application, Relative velocity.

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Energy based Jiles-Atherton and an analytical magnetostrictive model to study response of Terfenol-D actuator to a step input

Shivakumar S Y., Assistant Professor, Ballari Institute of Technology & Management, Bellary, India

Dr. Raghavendra Joshi., Professor, Ballari Institute of Technology & Management, Bellary, India

Abstract:--

This paper discusses the detailed design aspects and modeling of a magnetostrictive actuator contained coaxial coils surrounding the Terfenol-D rod. Experiments were conducted on this actuator by varying step input under zero pre-stress and pre-stress conditions. The results indicate a better performance of the actuator at each point of excitation when step input is biased to coil 1 instead of varying the step input equally to coaxial coils. The calculation of the magnetic field strength from the actuator coils considers inductance of driving coils. Energy based Jiles-Atherton model is used to predict the magnetization and the quadratic magnetostriction model is improved by considering quality factor in addition to other parameters that affect the output of an actuator. The output, displacement of Terfenol-D rod, obtained with the proposed magnetostriction model was found to have an average deviation of 6 % with respect to experimental results.

Keywords:--

Magnetostrictive actuator, Coaxial coils, Step input, Inductance, Jiles-Atherton model, Quadratic magnetostriction model, Quality factor.

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4th International Conference On Chip, Circuitry, Current, Coding, Combustion & Composites

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Studies on TQM practice in Small and Medium scale Enterprises

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Dr. Vijaya Kumar., Principal, Sairam College of Engineering , Anekal, Bangalore.

Abstract:--

Manufacturing firms are greatly relying on the principle of total quality management (TQM) to compete the challenges of current market trends in the era of globalization and privatization. Particularly, the small and medium scale enterprises (SME's) plays a vital role in providing employment and boosting the economy of the developing country like India. However, the quality of product is an important factor for the products are being manufactured to fulfill the customer satisfaction in SME's. The study on product quality improvement shows that meeting customer satisfaction, profit increase and minimizing losses to a lower level can be attained through the application of advanced quality philosophies and principles such as TQM. The objective of the study is to identify the critical success factors that contribute to the performance of quality management practices in SME's s and as well to establish a guideline that the management can take care off to improvise their firm's productivity. The present study includes a questionnaire survey in order to implement TQM practices in the structure of governance in SME's. The critical factors are arranged according to the priority after the data is collected. Three hypothesis are formulated based on employee satisfaction, customer satisfaction and operational effectiveness. At the end, statistical test is carried out for each hypothesis using T-test. It is summarized that the hypothesis stating TQM SME's are more effective in operation and fulfilling employees, and customers is proposed.

Keywords:--

Total quality management(TQM), Small and Medium scale Enterprises (SME's), Quality, T-test.

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New Era method of Water pumping for Agri - Applications

Ravi V Angadi., Assistant Professor, Dept. of Electrical & Electronics Engg. SSCE, Bengaluru, India.

Eshwar C., UG Scholar, Dept. of Electrical & Electronics Engg. SSCE, Bengaluru, India.

Prakruthi B., UG Scholar, Dept. of Electrical & Electronics Engg. SSCE, Bengaluru, India.

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Nithin V., UG Scholar, Dept. of Electrical & Electronics Engg. SSCE, Bengaluru, India.

Mathudevan V., Tutor, Dept. of Electrical & Electronics Engg. SSCE, Bengaluru, India.

Abstract:--

Shortage of power combined with the expanding lack of quality of rainstorm rainstorms and predominant expensive diesel pumping frameworks represent a monetary hazard to little and peripheral agriculturists. A mind boggling set of elements including a dangerous atmospheric deviation, aggressive land utilize and absence of fundamental framework is making new difficulties for India's huge agrarian populace. The consistently expanding crisscross amongst request and supply of energy, and power specifically, is posturing challenges particularly to farmers in remote territory. Agrarian innovation is evolving quickly. Homestead apparatus, cultivate building and creation offices are always being made strides. Rural applications reasonable for photovoltaic (PV) arrangements are various. These applications are a blend of individual establishments and frameworks introduced by service organizations when they have discovered that a PV arrangement is the best answer for remote farming need, for example, water pumping for products or animals. A sunlight based controlled water pumping framework is comprised of two essential parts. These are PV boards and pumps. The littlest component of a PV board is the sun oriented cell. Sun powered pumping can help balance the cost of customary water system fills. The all the more frequently a pump is run, the more noteworthy the open door for investment funds from sun based. Sunlight based pumps are dependent only on the sun to give control and consequently work just amid light hours unless combined with a battery/stockpiling framework. Sun powered pumps might be a decent choice for bring down water volume and daytime water system frameworks. So far, reasonable sun based innovation can't supply adequate energy to draw enough water for substantial scale surge water system.

Index Terms:--

Solar Energy, PV Cells, Water Pump set, Water.

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Predictive Energy Efficient Technique for Objects Tracking Sensor Network

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Sharath Kumar S., Student, Department of ECE, Sri Sairam college of Engineering, Anekal, Bengaluru.

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Abstract:--

In this paper, we devise and evaluate a fully decentralized, light-weight, dynamic clustering algorithm for target tracking. Instead of assuming the same role for all the sensors, we envision a hierarchical sensor network that is composed of a) a static backbone of sparsely placed high-capability sensors which will assume the role of a cluster head (CH) upon triggered by certain signal events and b) moderately to densely populated low-end sensors whose function is to provide sensor information to CHs upon request. A cluster is formed and a CH becomes active, when the acoustic signal strength detected by the CH exceeds a predetermined threshold. The active CH then broadcasts an information solicitation packet, asking sensors in its vicinity to join the cluster and provide their sensing information. To achieve significant reductions in the energy dissipated by the OTSNs while maintaining acceptable missing rate levels. PTSP is tested against basic tracking techniques to determine the appropriateness of PTSP under various circumstances. The PTSP outperforms all the other basic tracking techniques and exhibits significant amounts of savings in terms of the entire network's energy consumption total energy consumed.

Index Terms:--

Object Tracking Sensor network (OTSN), cluster head (CH).

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4th International Conference On Chip, Circuitry, Current, Coding, Combustion & Composites

Anekal, Bengaluru, 16th -17th November 2017

Artificial Intelligence and Robotics

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Abstract:--

Artificial intelligence is a theory. The base object is the agent who is the "actor". It is realized in software. Robots are manufactured as hardware. The connection between those two is that the control of the robot is a software agent that reads data from the sensors decides what to do next and then directs the effectors to act in the physical world. The aim of this paper is to provide basic, information of global scope on two emerging technologies: artificial intelligence (AI) and robotics. According to the Department of Trade and Industry (DTI), it is important to consider these emerging technologies now because their emergence on the market is anticipated to 'affect almost every aspect of our lives' during the coming decades (DTI, 2002). Thus, a first major feature of these two disciplines is product diversity. In addition, it is possible to characterize them as disruptive, enabling and interdisciplinary.

Index Terms:--

AI concept, robotics, software

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Design and Fabrication of Electro Education by Onroad Dynamic and Fluids

J.Dilip Singh., Assistant Professor, Department of mechanical

J.Jeyasri., Assistant Professor, Department of mechanical

Jaffar Sadiq., UG Scholar, Department of Mechanical Engineering

P.Karuppusamy., UG Scholar, Department of Mechanical Engineering

K.Manibharathi., UG Scholar, Department of Mechanical Engineering

Abstract:--

This project mainly deals with the production of the electricity in an innovated technique in order to cater with the problem our country is facing in its recent days. This project deals with a unique technique for the continuous production of electricity without any input of any energy. The project deals with the basic theory called as the electromagnetic induction. The electromagnetic induction principle is used in a different scenario and in a different setup for the continuous production of the electricity.

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4th International Conference On Chip, Circuitry, Current, Coding, Combustion & Composites

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Digital Signal Processing in Advanced Laboratory

Aruna.M.Neeli., UG student, ECE Dept, Sri Sairam College Of Engineering, Affiliated to VTU, Anekal, Bengaluru- 562 106

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Uday kumar., UG student, ECE Dept, Sri Sairam College Of Engineering, Affiliated to VTU, Anekal, Bengaluru- 562 106

Geetha R., Asst.professor, ECE Dept, Sri Sairam College Of Engineering, Affiliated to VTU, Anekal, Bengaluru- 562 106

Abstract:--

In this report we discuss a few issues that are important in a digital signal processor. These include issues like bus architectures that are most optimum for a DSP, parallelism and pipelining, fixed and floating point issues, etc. We then see the basic blocks required in any digital signal processor in section 3. The basic computational blocks include multipliers & accumulators (MACs), arithmetic & logic unit (ALUs) and shifters. Other blocks that are required for the proper control of these are program sequencers, data address generators, IO controllers and most important of all memory. In section 4 some issues related to power dissipation are included using an example of FIR filter realization.

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Anekal, Bengaluru, 16th -17th November 2017

Data Extract: Mining Context from the Web for Dataset Extraction

Prashanth Kumar., B.E - Department of ECE, 3rd year, Sri Sairam College of Engineering, Bengaluru.

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Prof V.K. Tivari., Assistant Professor, Department of ECE, Sri Sairam College Of Engineering, Bengaluru.

Abstract:--

In this paper we address the problem of dataset extraction from research articles. With the growing digital data repositories and the demand of data centric research in data mining community, finding appropriate dataset for a research problem has become an essential step in scientific research. But given the wide variety of data usage in scientific research it is very difficult to figure out which datasets are most useful for a particular research topic. To alleviate this problem, an automated dataset search engine is a powerful tool. In this work we propose a novel approach to extract dataset names from research articles. We propose a novel way of using “web intelligence” from academic search engines and online dictionaries to mine dataset names from research articles. We also show a comparison between different sources of “web knowledge” by comparing different academic search engines such as Google scholar, Microsoft academic search. The performance of this approach is evaluated using standard information retrieval metric such as precision, recall and F-measure. We get an F-measure of 80%. This accuracy is significant for an unsupervised approach.

Abstract:--

Dataset, information retrieval, web mining, search engines.

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Near Field Communication (NFC) the RFID Technology that can connect unpowered objects to internet achieving IOT at cheaper price

Skanda Kumar.B., Ballari Institute Of Technology and Management, karnataka ,India

Nandan goud.B., Nandi high school, Ballari, Karnataka, India

Abstract:--

The invention of Internet has made the day-to-day life facile and less complicated. A new revolution of the Internet is the Internet of things (IoT) where various devices and systems are connected to leverage data anywhere, anytime that is expected to spread rapidly, over the coming years. A new dimension of services will be unleashed due to this confluence and motivation thereby improving the Quality of livelihood. For Internet-enabled electronic devices, the Internet of Things is as close as the nearest hotspot. But what about all the objects too small, remote, or unpowered to make a secure Internet connection. The answer to this problem is NFC. NFC solves the problem of connecting unpowered objects that lack network access. By embedding NFC tags in unpowered, disconnected objects, you can add intelligence anywhere. Today there are 500 million NFC-enabled devices in the market, and eventually, the majority of things in our environment will have NFC tags on them. Hereby considering the real-world use cases of NFC tags by incorporating into the students life it is shown how some of the problems a student faces in daily life can be solved, Making students life much more productive and comfortable .this can be done as NFC tags can be used for repetitive and mundane tasks and sometimes eliminate the need of remembering things by making unpowered things interactive, by these ten real-world use case scenarios of NFC in student life the author is trying to portray The revolutionary impact NFC technology has in making Internet Of Things a Reality and recognize NFC's role as a key enabler of the Internet of Things at the cheaper price.

Abstract:--

IOT; NFC; STUDENT; RFID; TAG

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A new approach to secure internet of things(IOT) devices using encryption and anonymity capabilities of the Onion Router (TOR)

Skanda Kumar.B., Ballari Institute Of Technology and Management, karnataka ,India.

Nandan goud.B., Nandi high school, Ballari, Karnataka, India.

Abstract:--

A new revolution of the Internet is the Internet of things (IoT) where various devices and systems are connected to leverage data anywhere, anytime that is expected to spread rapidly, over the coming years. It is estimated that IoT is beneficial for smart home devices as nearly 40 billion connected devices are expected to be in use by 2020 but the biggest problem with such IoT devices is with limited functionalities is the security. Securing communications between devices and their back-end systems is one of the most severe problems. In some specific IoT cases, VPN can handle the secure connection, but VPN is not always possible. Hence there is an immediate need for better technologies and innovative methods through which the network security can be greatly enhanced by using The Onion Router (TOR). By default, all traffic in the Tor network is encrypted and the identities and locations of traffic sources is very effectively concealed. Thanks to this, someone intercepting traffic from Tor networks is neither able to identify the sender nor view or alter the messages. These features would be useful when securing an IoT system. Tor network is commonly considered only something which is criminal. In this paper the author is trying to look TOR objectively which is perfectly legal and show its positive uses like securing IOT devices preventing any future catastrophic large-scale cyber attacks

Abstract:--

TOR; Security; Internet; Network ;IOT; Anonymous communication

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5G technology: The key enabler in Reaching the Unreached, its advantages and initiatives government can take to empower Indians compete globally

Skanda Kumar.B., Ballari Institute Of Technology and Management, karnataka ,India.

Nandan goud.B., Nandi high school, Ballari, Karnataka, India.

Abstract:--

A new revolution of the telecommunication is the 5G technology where various mobile phones will be able to leverage data anywhere, anytime that is expected to spread rapidly, over the coming years. In this paper the author is trying to portray its advantages over previous generations of internet, and some of the initiatives that can be taken by the government are discussed that can put 5G into mainstream ,this is necessary because the advancements in mobile technology and web technology with current old school 2G internet which majority of the rural Indians have ,can be regarded as unusable internet and obsolete in nature because most needed features like e-Education, E-medication , E-commerce which lead to symbiotically beneficiary between rural and urban India is restricted by 2g internet there by proving just connecting people to the internet is not the solution for modern India instead it is the connecting people to the high-speed internet is the answer for which 5G will play a huge role .

Abstract:--

5G; INDIA; MOBILE INTERNET

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Home Security through Digital Image Processing based on IoT

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Abstract:--

This paper gives an outline for automatic system to control and secure the home, based on digital image processing with the help of Internet of Things (IoT). The system consists of a sensor, digital camera, database in the fog and the mobile phone. Sensors are placed in the frame of the door which alerts camera, to capture an image who intends to enter the house, then sends the image to the database or dataset that is stored in the fog. Image analysis is performed to detect and recognize and match the image with the stored dataset of the authenticated people or pets. If the image captured does not match with the dataset then an alert message is send to the owner of the house. The image processing algorithms are considered for the processing spatial and time complexity of the image captured to cross check with the dataset stored in the fog.

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Information Security

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Hemsai L., Electronics and Communication Engineering, Sri Sairam College Of Engineering Anekal, Bangalore

Sachin Kumar., Electronics and Communication Engineering, Sri Sairam College Of Engineering Anekal, Bangalore

Imthiyaz Ali., Electronics and Communication Engineering, Sri Sairam College Of Engineering Anekal, Bangalore

Yuvaraj Patil., Electronics and Communication Engineering, Sri Sairam College Of Engineering Anekal, Bangalore

Abstract:--

This presentation mainly focuses on Information security. Information security deals with the privacy and security concerns of the data. Are all our data safe and secure with us? How can our data be secured from data phishing and hacking? How the data is misused? Every day at least 10 millions of the records are getting swiped. Here we see how to protect the data.

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Rectification of Fault using recurrent neural network railway track circuit

Prof. Mamatha G M., Assiatant Professor, Electrical and Electronics Engineering Department, Sri Sairam College of Engineering, Anekal

Bharath H P., U G Scholar, Electrical and Electronics Engineering Department, Sri Sairam College of Engineering, Anekal

Harshith H., U G Scholar, Electrical and Electronics Engineering Department, Sri Sairam College of Engineering, Anekal

Sowmiya C., U G Scholar, Electrical and Electronics Engineering Department, Sri Sairam College of Engineering, Anekal

Shivkumar Rathod., U G Scholar, Electrical and Electronics Engineering Department, Sri Sairam College of Engineering, Anekal

Abstract:--

Timely detection and identification of faults in railway track circuits are decisive for the safety and availability of railway networks. In this paper, the custom of the long-short-term memory (LSTM) recurrent neural network is proposed to undertake these tasks based on the commonly available measurement signals. By considering the signals from multiple track circuits in a geographic area, faults are spotted from their spatial and temporal dependences. A generative model is used to show that the LSTM network can learn these dependences directly from the data. The network correctly classifies 99.7% of the test input sequences, with no false positive fault detections. In addition, the t-Distributed Stochastic Neighbour embedding (t-SNE) method is used to scrutinize the resulting network, further showing that it has learned the relevant dependences in the data. Finally, we compare our LSTM network with a convolutional network trained on the same task. From this comparison, we conclude that the LSTM network architecture is better suited for the railway track circuit fault detection and identification tasks than the convolutional network.

Index Terms:--

Fault diagnosis, long-short-term memory (LSTM), recurrent neural network (RNN), track circuit.

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Implementation of Low cost, Reliable and Head movement controlled Wheelchair for Physically Challenged people

Prof. Mamatha G M., Assiatant Professor, Electrical and Electronics Engineering Department, Sri Sairam College of Engineering, Anekal

Divakara A P., U G Scholar, Sri Sairam College of Engineering, Anekal

Chandrashekar., U G Scholar, Sri Sairam College of Engineering, Anekal

Legeswaran V., U G Scholar, Sri Sairam College of Engineering, Anekal

Teli Rekha Appasaheb., U G Scholar, Sri Sairam College of Engineering, Anekal

Abstract:--

An automated system is developed to control the motor rotation of a wheelchair based on the head movements of a physically challenged person sitting on a chair. The people who are affected by diseases like (loss of limbs-legs/hands, due to accidents or by birth) that they cannot move their body parts except their head. In order to facilitate these people for their independent movement a wireless head movement control system has been designed and implemented. An accelerometer is fixed on the persons head, based on the head movement the accelerometer drives the wheelchair.

Index Terms:--

Head movement controlled wheelchair, accelerometer, Arduino UNO board, high torque motors, ASK Transmitter and Receiver, Motor drive circuit, Joystick.

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Experimental and CFD analysis of Heat Sink with Al-Cu in CPU Cooling

Srinivas. D., Assiatant Professor, Electrical and Electronics Engineering Department, Sri Sairam College of Engineering, Anekal

Dr. S. Ramamurthy., U G Scholar, Sri Sairam College of Engineering, Anekal

Prerana.E., U G Scholar, Sri Sairam College of Engineering, Anekal

Abstract:--

A heat sink device for use with thermal load of 20W, temperature of the heat source rises by 100C dissipating heat into the atmosphere. Heat sink performance is measured in 0C /W. ie rating of 100C/20W, =0.50C/W. A cooling unit comprising a heat radiating plate and an electric fan device. The heat radiating copper base plate has thermal conductivity of 400W/mK and comprises a heat receiving portion a Aluminum fin with thermal conductivity of 205W/mk and a heat exchanging portion, (fan) which are arranged side by side. Tapered solid fin configuration is been considered for testing by experimental and CFD simulation methods. With base of 5mm & tip dimensions varying as 1.5mm, 2.00mm, 2.5mm

Index Terms:--

Heat sink, IC's, cooling fan, fin configuration, heat dissipation rate, fidelity, Geometrics, CFD simulation

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IoT Based Solar Roof Top Management System

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Abstract:--

Solar energy generation requires efficient monitoring and management in moving towards technologies for net-zero energy buildings. This paper presents a dependable control system based on the Internet of Things (IoT) to control and manage the energy flow of renewable energy collected by solar panels within a micro grid. Data for optimal control include not only measurements from local sensors but also meteorological information retrieved in real-time from online sources. For system fault tolerance across the whole distributed control system featuring multiple controllers, dependable controllers are developed to control and optimise the tracking performance of photovoltaic arrays to maximally capture solar radiation and maintain system resilience and reliability in real time despite failures of one or more redundant controllers due to a problem with communication, hardware or cyber security. Experimental results have been obtained to evaluate the validity of the proposed approach

Index Terms:--

Solar tracking, solar energy, dependable control, Internet of things.

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Fuzzy Based Control in Piezo Power-Driven Generation Using Boulevard Traffic

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Abstract:--

This paper presents the basic idea in generating power using Piezo electric effect by road traffic. The concept of generating energy from road traffic is implemented by using piezoelectric materials. The system design structure was proposed considering the factors involved with material science for piezoelectric generator modeling and field of power electronics for additional components in producing a realist outcome. It also ensures ease of vehicle performance, as this system utilizes energy source derived as kinetic energy released from vehicles or the pressure developed by the vehicles into electrical power output, that is, obtained by harnessing kinetic energy due to strain of vehicles over the road surface. The power generated using piezoelectric materials is interconnected with the power electronics system. The interconnected system power output power is optimised and stabilized using a fuzzy based controller in the feedback. The MATLAB Simelectronics and fuzzy logic toolbox is used along with Simscape to develop this Piezo electric generation and fuzzy algorithm.

Index Terms:--

Piezo Electric, Power Electronics, Optimized Power flow, Fuzzy Control, Algorithm

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Evolution of the Performance of BTFCL-BR with Genetic Algorithm for Enhancing the Power Quality of Grid Connected DFIG

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Abstract:--

Performance of Bridge Type Fault Current-Limiter with Bypass Resistor (BTFCL-BR) for enhancing the power quality of Grid connected Double Fed Induction Generator (DFIG) is evaluated in this paper. The normal BTFCL can enhance the power quality of DFIG. However, the Fault current limiting Inductor (FCLI) is periodically inserted into the stator circuit of DFIG under normal operation for compensating power losses of the FCLI. The insertion of the FCLI induces stator voltage spikes, which causes significant Electromagnetic torque oscillations and stator flux. One feasible way to solve this problem is to use a BTFCL-BR with GA (Genetic Algorithm) is presented to the Bypass Resistor (BR) absorbs the majority of current harmonics during normal operation and eliminates the stator voltage spikes. The electromagnetic torque as fluctuations and flux can be significantly reduced. The performance of BTFCL-BR with Genetic Algorithm is evaluated by simulating on a typical 1.5MW wind turbine driven DFIG system. By simulation evaluation it seems that the BTFCL-BR with GA approach is the most promising solution among common BTFCL.

Index Terms:--

Double Fed Induction Generator (DFIG), Bridge type fault current-limiter with Bypass Resistor (BTFCL-BR), Genetic Algorithm (GA), Fault current limiting Inductor (FCLI).

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PLC Based Adaptive Headlight Beam Assisting System

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Abstract:--

Headlight of vehicle poses a great danger during night driving. Drivers use automatic headlight mode so high beam and low beam switching takes place based on oncoming vehicle. Even though accidents are happening at highway during night travel because of high beam Glaring effect and low beam improper vision. When opposite vehicle crosses for a while at dark night situation like hilly road, curve road, rainy, foggy situation driver hit the obstacle, another vehicle and even pedestrian. Present headlamp mechanism uses microprocessor/microcontroller/mini computer controlled Camera based image processing, titling of headlamp, matrix headlamp system. These mechanism of control is costly and each functionality of car (tilting of headlamp, collision avoidance, security feature etc.)Require individual embedded system and So project depicts explore of concept PLC based Adaptive headlight beam assisting system which clearly depicts usage of PLC can be used for controlling one of functionality of car(adaptive headlight). So further multiple feature of vehicle is controlled through single PLC beside using individual embedded system.

Index Terms:--

PLC Head light

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AC/DC Motor Output Control Using FPGA

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Abstract:--

DC motor had been used in many applications. In some applications the control of DC Motor speed is a deal breaker. These applications require a very tight speed controlling to avoid serious problems. There are various ways to control the speed of motor. The process of developing any solution to a certain problem should go through three steps. The first step is to simulate the problem and try to find the solution. The second one is to verify that your solution is really working before you try it on real-time problems. The last step is to validate your solution on real-time measurements. In this paper we studied the problem, analyzed it, and we found the solution and did simulation to check its outcomes. Our goals in this paper are to verify our solution and implement it using Field-Programmable Gate Arrays (FPGAs). FPGAs must be programmed using Hardware Description Language (HDL).Xilinx had been used to control speed the simulation done using real time measurements using FPGA for step response of the system using MATLAB/SIMULINK and PSIM.

Index Terms:--

DC Motor, speed control, FPGA, modeling and simulation

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Power Flow Control in Hybrid Power System Using Modern Control Technique

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Abstract:--

The main aim of this paper is to make the combination of grid interfacing inverters and 3-phase 4-wired linear / non-linear unbalanced loads at the point of coupling to appear as balanced linear load to the grid. This new control concept is demonstrated with extensive Fuzzy based logic studies. The structure of the designed controller consists of outer power with harmonic control loop ,middle voltage control loop and inner current control power loop for real and reactive power control in dq reference frame .The developed controller controls the real and reactive power supplied by the DG (Distributed Generation) at the PCC (Power Controlled Converter). The controller is designed to deliver current at unity power factor at PCC. An increase in reactive power demand and harmonics at PCC due to change of load and grid impedance variation, would affect the system voltage at PCC. A five-level inverter is used as a shunt active power filter (APF), taking advantages of the multilevel inverter such as low harmonic distortion and reduced switching losses. It is used to compensate reactive power and eliminate harmonics drawn from a thyristor rectifier feeding an inductive load (RL) under distorted voltage conditions. The APF control strategy is based on the use of self-tuning filters (STF) for reference current generation and a fuzzy logic current controller. The use of STF instead of classical extraction filters allows extracting directly the voltage and current fundamental components in the α - β axis without phase locked loop (PLL). The MATLAB fuzzy logic toolbox is used for implementing the fuzzy logic control algorithm.

Index Terms:--

Linear Load, Non-Linear Load, Fuzzy Logic, Converters, Filters, Power Flow, Grid system

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Implementation of a High-Power-Factor Hybrid Three-Phase Unidirectional Rectifier

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Abstract:--

This paper describes the conception and analysis of a unidirectional hybrid three-phase rectifier suitable for medium-and high-power applications. The rectifier is composed of a single-switch diode bridge boost-type rectifier in parallel with a pulse width modulation (PWM) three-phase unidirectional boost rectifier. The objective is to obtain a structure capable of providing sinusoidal input currents with low harmonic distortion and dc output voltage regulation. The diode rectifier operates at low frequency and has a higher output power rating. Therefore, the PWM unidirectional rectifier is designed to operate with a small power rating and at a high switching frequency. The total harmonics distortion of the proposed structure varies between 0% and 32%, depending only on the amount of power processed by the PWM three-phase unidirectional rectifier. The rectifier topology conception, principle of operation, control scheme, and simulation and experimental results of a 20-kW laboratory prototype are also presented in this paper.

Index Terms:--

High-power application, hybrid rectifier, power factor improvement, pulse width modulation (PWM) unidirectional rectifier.

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Secured Coin Based Cell Phone Charger with RFID

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Abstract:--

In this project, a coin based secured cell phone charger with RFID is designed for public people use. Cell phone charger is also provided with RFID for mobile security. Many times the mobile battery becomes low down or lifeless in the middle of the talk. When right to use to standard phone charger and availability of grid power supply is not convenient, in such cases this coin based secured cell phone charger with RFID is very much useful. The coin based secured cell phone charger works in accordance with programming written in the "PIC C". When a coin is inserted, the microcontroller will detect the input. The controller reads the program written in 'c'. The tray placed to facilitate the charging of the mobile is opened which contains RFID card for mobile security and multi pin charger. Mobile is placed in the tray and the tray is closed within the time that is written in the code. Meanwhile relay switches multi pin charger. The time period depends on the coding written in the controller. With the help of multi pin charger we can charge different mobiles. And by providing two or more trays it is possible to charge more than one mobile at a time. After the time of charging is completed the customer can punch RFID card to the RFID reader and can withdraw the mobile from the tray.

Index Terms:--

coin, mobile, RFID

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Comprehensive DC Power Balance Management in High-Power Three-Level DC–DC Converter for Electric Vehicle Fast Charging

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Abstract:--

With the increasing popularity of electric vehicles, there is an urgent demand to shorten the charging time, so the development of high-power charging stations with fast chargers is necessary to alleviate range anxiety for drivers. The charging station based on the neutral-point-clamped (NPC) converter can bring many merits, but it has unbalanced power problems in the bipolar dc bus. To solve this issue, comprehensive dc power balance management (PBM) in conjunction with high-power three-level dc–dc converter based fast charger is proposed in this paper. The active dc power balance management (APBM) is proposed to assist the central NPC converter in balancing power so that the additional balancing circuit is eliminated; while the passive dc power balance management (PPBM) is proposed to eliminate the fluctuating neutral-point currents and to ensure the balanced operation of fast chargers. The principles of APBM and PPBM are researched, the efficient integration between them is studied, and the overall control scheme for the fast charger is proposed. The power balance limits of APBM are explored, while the circulating currents of PPBM are analyzed. Simulation and experimental results are presented to verify the effectiveness of the proposed fast charger with PBM functions.

Key Terms:--

Dc power balance management, electric vehicles, fast charger, plug-in hybrid electric vehicles, three-level dc–dc converter.

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EVbot with Defibrillator for Medical Services in Smart Cities

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Abstract:--

A keen city is a urban improvement vision to incorporate data and correspondence innovation (ICT) and Internet of things (IoT) innovation in a safe mold to deal with a city's benefits. Using sensors incorporated with continuous checking frameworks, information are gathered from nationals and gadgets – then prepared and broke down. The data and information assembled are keys to handling wastefulness. Time is a basic issue when managing individuals who encounter a sudden heart failure that tragically beyond words to detachment of the crisis treatment. Along these lines, a prompt treatment utilizing Automated External Defibrillator (AED) must be directed to the casualty inside a couple of minutes in the wake of falling. Subsequently, we have outlined and built up the Ambulance Robot, abbreviated as EVbot, which brings along an AED in a sudden occasion of heart failure and encourages different methods of operation from manual to independent working to spare somebody's lives in savvy urban areas. Points of interest of plan and advancement of such robot are introduced in this paper.

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An Efficient Automatic Method of Optic Disc Segmentation using Region Growing Technique in Retinal Images

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Abstract:--

Segmentation of Optic disc (OD) from a retinal image is a essential step while developing automated screening systems for eye disease like diabetic retinopathy, Glaucoma etc. This paper proposes a method of automatic optic disk segmentation based on region growing technique with automatic seed selection. In this method centre of optic disk iss considered as a seed to apply region growing technique to segment the optic disk from the preprocessed retinal image. Automatic detection of centre of optic disk is done by double windowing method. The algorithm uses image processing techniques like contrast adjustment, morphological operations & filtering to process the retinal image and to remove the blood vessels from the retinal image. The performance of optic disk segmentation by proposed method compared with Optic disk segmentation ophthalmologists and results are found convincing and efficient. The experimental results indicate this method of segmentation of the OD has good accuracy and also is computationally cheap.

Keywords:--

Medical Imaging, Retinal Image Processing, Optic Disc, Image Segmentaton.

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Fatigue Monitoring of Aged People Using Eye Tracker

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Abstract:--

Monitoring mental fatigue has become important for improving cognitive performance and health outcomes especially for older adults. Previous models using eye-tracking data allow inference of fatigue during cognitive tasks, such as driving, but they require us to engage in specific cognitive tasks. A model capable of inferring fatigue in natural-viewing situations when individuals are not performing cognitive tasks would help monitor mental fatigue in everyday situations. Moreover, although eye-tracking measures exhibit age-related changes, previous models were mainly tested by user groups that did not include older adults. Here, we present a fatigue-detection model including (i) novel feature sets to better capture mental fatigue in natural-viewing situations and (ii) multiple fatigue-detection classifiers of each estimated age group to make it robust to the target's age. To test our model, we collected eye-tracking data from younger and older adults as they watched video clips before and after performing cognitive tasks. Our model improved accuracy by up to 22.3% compared with a model based on the previous studies, and it achieved 99.4% accuracy. Furthermore, after it was trained using the eye-tracking data before and after cognitive tasks, our model could detect increased mental fatigue of full-time workers after their work with 92.6% accuracy.

Keywords:--

mental fatigue, eye-tracking, features

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An Innovative Method for Forest Fire Risk Zoning Map Using Fuzzy Inference System and GIS

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Abstract:--

Forest Fire causes considerable environmental damage and brings about a significant change in the ecosystem of the region. It is a humanistic and national duty to protect against fire the forests. Most of such forest fire incidents result from human nonchalance. Other causes such as thunderstorm, glass objects and etc. are also considered as triggers of such incidents, this paper mainly focuses upon the human factor. The considered parameters such as distance from the road, residential areas, river, slope, climate and type of vegetation, and GIS play a significant role in the analysis and determining the factors impacting fire incidents. GIS was used for the analysis and calculations required in regard with these parameters. Therefore the locations with fire risk are determined by a combination of experimental model, fuzzy inference system and GIS. The obtained results indicate high accuracy and good efficiency. Results discussed extensively in paper. To evaluate the proposed method, the obtained results were compared with fire incidents of past years. The comparison results indicate an improvement in predication by this method in comparison with other methods

Keywords:--

Forest Fire Risk Fire Risk Zoning Map, GIS, Fuzzy Inference System, Experimental Model.

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Intelligent Controller to Monitor and Control Physical Parameters in Greenhouse.

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Abstract:--

Green house needs the monitoring of the parameters like temperature, humidity and light. These parameters should be kept within the specified range. All these real time parameters are measured and sent to coordinator through zigbee. As an open and global standard for wireless sensor network zigbee protocol IEEE 802.15.4 shows advantages on low cost, low power consumption and low data rate. Zigbee's network layer supports three networking topologies star, mesh, and cluster tree. Star networks are common and provide for very long battery life operation. Zigbee based wireless monitoring and control system in greenhouse is composed of a coordinator and end devices including sensor nodes and electrical devices organized as a star network. By running software, the coordinator periodically receives the data from the wireless sensor nodes and displays them on its LCD. Meanwhile, it sends orders to electrical devices in the network to control them automatically.

Keywords:--

Greenhouse, Zigbee, WSN, FFD, RFD.

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Knowledge-Based Secure Dynamic Cache Update for Domain Name System

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Abstract:--

The core of DNScup (DNS cache update protocol) uses a dynamic lease technique to keep track of the local DNS name servers whose clients are tightly coupled with an Internet server. DN2IP mapping change of the corresponding Internet server, its authoritative DNS name server proactively notifies these local DNS name servers still holding valid leases. Although the notification messages are carried by the User Datagram Protocol (UDP), dynamic lease also minimizes storage overhead and communication overhead, making DNScup a lightweight and scalable solution. Based on client query rates (or service importance to their clients), it is the local DNS name servers themselves that decide on whether or not to apply for leases (or renewal) for an Internet service. On the other side, the authoritative DNS name server grants and maintains the leases for the DNS resource records of the Internet service the major components of the DNScup prototype include the detection module, the listening module, the notification module, and the lease-track file. DNScup achieves the strong cache consistency in DNS and significantly improves its availability, performance, and scalability.

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Extraction of Exudates from Retinal Images Using Improved Fuzzy Clustering Method

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Abstract:--

The diabetic retinopathy illness spreads polygenic disease on the membrane vessels therefore they lose blood provide that causes cavity in brief time, thus early detection of polygenic disease prevents visual defect in additional than five hundredth of cases. The retinal image identification is a very important methodology for diabetic retinopathy detection and analysis. During this paper the formula improved median filter is employed for pre-processing and additional feature extraction of exudates is completed by improved fuzzy bunch formula. The projected system consists of 4 stages. First is the gathering of real time retinal pictures from the hospitals. Second stage is pre-processing of retinal image exploitation improved median filtering. Third stage is feature extraction of Exudates and fourth is usually recommended for corresponding treatment for additional use. Simulation exploitation mat work were done employing a set of pictures and are established that the formula holds smart for all the photographs, exudates may be detected effectively.

Key words:--

Median filter, exudates, Structure pictures, improved fuzzy clustering, proper treatment.

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Analysis of Microgrid

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Abstract:--

Solar energy is a green energy and nearly no carbon traces are present. Hence, the growing demand and challenges to meet the electricity requirement even in remote places can be achieved with a solar microgrid. A microgrid when coordinately controlled, can be operated both in grid connected mode and intentional islanding condition. In this paper control scheme for intentional islanding of utility microgrid are analyzed. Also reviews on various strategies to develop HIL for fast and accurate islanding and coordination control are presented. To overcome generation and demand mismatch study of various centralized adaptive load shedding scheme is investigated.

Key words:--

Intentional islanding, Islanding Detection Method (IDM), centralized load shedding scheme, Synchro phasor technology, Distributed Energy Resources (DER), Supervisory-control and data-acquisition (SCADA) system, Wide Area Monitoring, Protection and Control (WAMPC) system.

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Detection of Lung cancer using digital Image processing

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Abstract:--

Lung cancer main disease cause of death of among throughout the world. Lung cancer is causing very high mortality rate. There are various cancer tumours such as lung cancer, breast Cancer, etc. Early stage detection of lung cancer is important for successful treatment. Diagnosis is based on Computed Tomography (CT) images. In this Histogram Equalization used to pre-processing of the images and feature extraction process and classifier to check the condition of a patient in its early stage whether it is normal or abnormal.

Key words:--

Computed Tomography, cancer, Histogram Equalization, Watershed Segmentation

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Biodegradable Packaging: An Alternative to Non-Biodegradable Plastics

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Farheena Iftikhar., Sher-e-Kashmir University of Agricultural Sciences & Technology, Shalimar, Kashmir, J&K

Abstract:--

Plastic packaging, used extensively nowadays, poses huge threats to environment. Plastics, especially non-biodegradable polymers accumulate in the environment and adversely affect wildlife, wildlife habitat, or humans. To overcome this problem we can replace traditional non-environment friendly plastics with biopolymers, in particular polysaccharides or macromolecules having film-forming properties. These biodegradable materials, which find applications mostly in food packaging, can largely contribute to the reduction of environmental pollution. This review summarizes some of the widely used biodegradable packaging materials

Key words:--

Biopolymers; non-biodegradable polymers; packaging; polysaccharides

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Marketing of Agricultural Produce: Exploring a unique solution to agriculture crisis in Punjab

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Gursimranjit Singh., Research Scholar I.K.G. Punjab Technical University, Kapurthala

Abstract:--

This paper examines the hitch regarding the marketing of agricultural produce, Commission agents and procurement agencies of the agriculturally developed Punjab by addressing some possible and realistic ways to tackle agriculture crisis, as agriculture in Punjab is going through turbulent time and striving hard for sustainability. Although production, processing and marketing are the 3 pillars of the agricultural economy but marketing of agricultural produce is still evolving in Indian society and facing various challenges. The agriculture crisis in Punjab is very much evident by increase in farmer's suicide.

Key words:--

Agriculture marketing, Agriculture produces, Commission agents, Procurement agencies

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Under Slung Steel Truss Bridge with Composite RCC Deck Bridge

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K.K.Pathak., Professor, Department of Civil Engineering, IIT (BHU), Varanasi, India.

Abstract:--

The most common cause of structural failure in steel bridges is buckling of a compression member. Buckling failure is a sudden failure and offers no warning before collapse. Recently, in the year 2012, a 190m span steel truss bridge over river Alaknanda, in Uttarakhand, India, suddenly collapsed during casting of the deck slab due to buckling of one of its top cord compression members. Its failure during construction stage raised doubts on current design practices where, the factor of safety provided by the codes do not guarantee performance of the bridge in overload conditions. In the case of composite under slung bridges, premature buckling of top cord compression member is prevented by the RCC deck connected with the steel truss with the help of shear studs. Further, this allows the steel truss members to take stress up to their ultimate strength. A 30 m span bridge is analysed with composite action of RCC deck for service and overload conditions. The maximum flexural strain due to live load alone in the RCC deck slab is found to be 0.00026. Shrinkage strain for M30 concrete deck slab is taken as 0.0003. Hence, even during service condition, composite action between the steel girder and RCC deck slab may not take place. For the analysed deck type bridge, total load on the bridge in terms of uniformly distributed load in service conditions for (DL+LL) case is 153.7kN/m, and in overload condition for 1.5x(DL+LL) case it is 230.55kN/m. At plastic stage the bridge can carry an equivalent udl of 635.98kN/m. Thus, for the plastic collapse, apart from warning due to excessive deflection, there is a factor of safety of 4.1 in comparison to service load. For prestressed concrete bridges, load combination at ultimate strength for severe condition, as per Cl. 12 of IRC: 18-2000, is prescribed as 1.5G+2SG+2.5Q. Whereas, in case of steel truss bridges, as per IRC: 24-2010 and IRC: 6-2010, load combinations and permissible stresses are given in Table 1, Cl. 202.3 for service condition only. IRC codes haven't provided any specific provision for ultimate strength of steel truss bridges. Therefore, a parallel clause for ultimate strength of steel truss bridges also may be added, for which composite under slung bridges may be found to be suitable.

Key words:--

Buckling, Composite bridge, Under slung truss, Shrinkage strain.

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Linezolid A Drug of Choice for Treatment of Skin and Soft Tissue Infections Caused By Methicillin Resistance Staphylococcus Aureus

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Abstract:--

Linezolid is a drug of choice for the treatment of methicillin resistant Staphylococcus aureus (MRSA) infections. However, resistance to this antibiotic have been reported. This study has been conducted to determine linezolid resistance among MRSA. A descriptive study was conducted in microbiology department. In the present study a total of 150 Staphylococcus aureus (S. aureus) were subjected to antibiotic susceptibility test by Kirby Bauer disc diffusion method as per CLSI guidelines. The detection of MRSA was done by cefoxitin disc (30µg) and linezolid disc (30µg) was included to detect its susceptibility. The prevalence MRSA was reported as 73 (48.7%) and linezolid and vancomycin were found to be 100% sensitive in the present study. The sensitivity against penicillin was found to be the lowest i.e. 7.3%. It could be concluded from the findings of the present study that linezolid is still the preferred drug for the treatment of infections caused by MRSA.

Key words:--

MRSA, Linezolid, antibiotic susceptibility test, skin and soft tissue infections.

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Analysis of Soil using Spectral Signatures

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Abstract:--

Soil contains organic matter, clay and particles of rock. The composition of soil varies physically as well as chemically which is important for plant growth. The traditional techniques to measure soil contents are time consuming while remote sensing provides efficient techniques for mapping these contents. The visible infrared, near infrared and short wave infra red bands of electromagnetic spectrum are used to study the soil without destructing its properties. In this paper we present the study of soil spectral signatures. The study of soil is carried out using spectral signatures obtained by using ASD field spectrometer. The association between the spectral data and the soil contents is carried out. The soil samples were collected from Shendra and Chikhalthana in Aurangabad district Maharashtra state (India). Principal component analysis is applied to these spectra for classification purpose.

Key words:--

Spectral signature, soil nutrients, soil classification, principal component analysis.

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Wood Density Variation around the Circumference in Pinus Merkusii Jhungh & de Vriese

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Abstract:--

Wood density is one of the most important wood characteristics. It is an important indicator of wood quality and selection of wood for different end uses. The present study was carried out on cross-sectional discs of *Pinus merkusii* at breast-height collected from pine forest of Dong village, Anjaw district of Arunachal Pradesh. The main aim of the present study was to evolve an efficient sampling procedure for wood density comparison amongst trees. Analysis of variance carried out among eight cardinal directions revealed significant variation in wood density around the circumference. A non-significant variation was observed when wood density of two opposite directions was compared with mean of eight cardinal directions with multiple comparisons by using linear contrast. Hence, any two opposite directions can be suggested for comparison of wood density among *Merkus Pine* trees.

Key words:--

Breast-height, Cardinal directions, *Pinus merkusii*, Wood density.

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Biofilm production and multidrug resistance in clinical isolates of *Acinetobacter baumannii* in a tertiary care hospital

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Prabhjot Kaur Gill., Assistant professor, Department of Microbiology, Centre for Interdisciplinary Biomedical Research, Adesh University.

Avneet Kaur Heyar., Research Scholar at Department of Microbiology, Centre for Interdisciplinary Biomedical Research, Adesh University.

Abstract:--

Biofilms are structured layer of bacterial communities' adherent to abiotic or biotic surfaces enclosed within a self-produced exopolysaccharide matrix (1). Bacteria producing biofilms are responsible for antibiotic resistance due to restricted penetration of antibiotics into biofilm and expression of resistant genes. In general, there is very scant literature available in Indian subcontinent on indiscriminate use of antimicrobial agents. The indwelling Medical Devices (IMDs) are most vulnerable to biofilm producing microbial colonizers and the superimposed complex nature of bacteria in biofilms colonizing IMDs, have resulted in phenomenon of resistant Device Related Infections (DRIs) (2). coccobacilli that are ubiquitous in nature and cause a variety of opportunistic nosocomial infections. *A. baumannii* is generally regarded as the second most common pathogen after *Pseudomonas aeruginosa* among the nosocomial, aerobic, non-fermentative, Gram negative bacilli pathogens which causes nosocomial pneumonia, bacteremia, meningitis, and urinary tract infection. It is the most common cause of device related nosocomial infection which is caused when the organism is able to resist any chemical or physical disinfectant by forming a biofilm e.g. vascular catheters, cerebrospinal fluid shunts, foley catheters etc. Multidrug-resistant *Acinetobacter baumannii* has been reported worldwide and is now recognized as one of the most difficult healthcare-associated infections to control and to treat (3). Keeping these facts in mind, the present study was undertaken with the aims and objectives to detect biofilm production and its association with MDR among the clinical isolates of *A. baumannii* in this tertiary care hospital.

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Effects on Nuclear Containment Wall under Different Aircrafts Crash

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Abstract:--

The safety concern of nuclear structure has paramount importance at present time. Nuclear energy presently contributes more than 17% of global energy demand. In this study, safety analysis of 1.2m thick outer containment of a typical Nuclear Power Plant has been carried out using ABAQUS/Explicit finite element code. A real nuclear containment BWR Mark III has been considered in the present study. The height and diameter of the containment wall is 46m and 42m respectively. The effects of impact on nuclear containment wall due to different aircrafts crash have been studied. The analysis has been performed for Boeing 747-400, Boeing 767-400, Airbus A-320, Boeing 707-320 and Phantom F4. The behaviour of concrete and reinforcement has been incorporated using Concrete Damaged Plasticity model and Johnson Cook elastic-visco plastic model respectively. The most critical location was observed the mid height of the containment wall. It was also observed that Boeing 747-400 is more destructive than others aircrafts.

Key words:--

Impact, Aircraft crash, Nuclear containment, Damaged plasticity model, Johnson Cook model.

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Surgical Site Infections in Women Caused by Staphylococcus Aureus in a Tertiary Care Hospital

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Kamaldeep Kaur., Ph.D. Scholar at Department of Microbiology, Adesh Institute of Medical Sciences and Research, Bathinda, Punjab.

Bindu Mitruka., M. D. Microbiology, Consultant Microbiologist, Bindu Labs, Bathinda

Abstract:--

Surgical site infections (SSIs) are defined as infections that occur within 30 days or one year after the surgical procedure and affecting either incision or deep tissue at the operation site. Staphylococcus aureus (*S. aureus*) is now a leading cause of SSIs included skin and soft tissue infections. The present study was aimed to determine the rate of isolation of *S. aureus* in surgical site infections with relation to socio-demographic characteristic and clinical conditions. A total of 602 women who underwent surgery in our hospital were included in the study. The rate of infection was 8.14% among the total women operated and maximum isolation among infected patients was of *S. aureus*. Based upon socio-demographic characteristics the maximum rate of infection was reported in women residing in rural area with poor hygiene. The clinical conditions which were common among the infected patients were diabetes mellitus and tobacco consumption. It was concluded from the study that proper care of SSIs should be taken during post-discharge period for infection prevention and control..

Key words:--

clinical conditions, obstetrics and gynaecology, socio-demographic, Staphylococcus aureus, surgical site infections.

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Synthesis and characterization of O,O'-bis-di- α -naphthyl dithiophosphate of lead(II).

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Abstract:--

O,O'-bis -di- α -naphthyldithiophosphate of lead(II) corresponding to $[(\alpha\text{-C}_{10}\text{H}_7\text{O})_2\text{PS}_2]_2\text{Pb}$, has been synthesized by the reaction of PbCl_2 in 2:1 molar ratio with sodium salt of *O,O'*-di- α -naphthyldithiophosphate in refluxing chloroform. This complex has been characterized by elemental analyses, C, H, S, Pb and further characterization by some spectroscopy analyses, namely, IR and NMR (^1H , ^{13}C and ^{31}P) has been carried out. Monomeric nature of this complex has been confirmed and lead atom is four coordinately bonded to two bidentate dithiophosphate ligands leading to a square planar geometry around the lead atom.

Key words:--

α -naphthyl, dithiophosphate, lead, phosphorus, sulfur

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Design, Development and Testing of a Transformer Overload Protection Using M S P 430 Microcontroller

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Abstract:--

In any electrical distribution system distribution transformer considered as a heart of the system. For this reason, working of transformer should be reliable. The main problem associated with the distribution transformer is overloading, which causes the failure of the transformer and thus the whole system gets affected and makes the system unreliable. Overloading of transformer means taking more current than it's designed value of the transformer secondary. To take the control over this overloading issue, we have a solution called 'protective relay'. Generally protective relay works on the electromagnetic principle. It protects the transformer in overload condition. Protective relay is generally coupled with the circuit breaker, which isolates the system in overload conditions. In this paper we have used microcontroller for designing this protecting relay. Microcontroller based relays are more popular because of no mechanical operation.

Key words:--

Circuit breaker, distribution transformer, overload, microcontroller, relay.

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Generation of Electricity by OSMOSIS

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Madhuri.S., Ug Scholar, Sri Sai ram College of Engineering,Anekal,Bangalore

Abstract:--

We can't continue using several of our energy sources from where we gain energy today. For example fossil fuels contaminate our environment and we are also running out of them. It is therefore necessary to find other ways of producing energy. This paper focuses on one of those alternatives; osmotic energy. Osmosis means passage of water from a region of high water concentration (often freshwater) through a semipermeable membrane to a region of low water concentration (often NaCl). Osmotic powers excellent environmental performance and CO₂-free power production will qualify for green certificates and other supportive policy measures for renewable energy. The estimated energy cost is comparable and competitive with the other renewable energy sources. For both the commercial power companies and technology suppliers Osmotic Power represent an attractive new business potential.

Key words:--

Renewable source, osmotic pressure, semipermeable membrane.

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Brine Water as a Fuel for an Automobile

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Abstract:--

There is a major demand on renewable energy fuels for the automobiles. This is because of rapid decrease in quantity of the combustible fuels found on the earth. To overcome this situation it is needed to evolve renewable energy source. Brine water is one the renewable source which can make great difference for the automobile in gaining energy. Brine water is a mixture of salt and water or it is so called as sea water. It consists of adequate oxygen, hydrogen and some amount of salts. Hydrogen plays a vital role among those particles. When the brine water is been used as a fuel, it cannot burn easily without any of the external sources for the separation of the hydrogen from water through electrolysis. Resulting hydrogen gives maximum power to the automobile reacting with oxygen in a fuel cell. This study is an attempt to use theoretical methods and fuel cell techniques and to analyze the performance of an automobile. Electric motor plays a major role since it is been used to give the thrusting movement for the automobile.

Index terms:--

Renewable energy, Salt in water or Sea water, electrolysis process, fuel cell, Electric motor.

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Design of Small Passenger Aircraft Front Spar Using Strengths of Material and FEM Approach

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Abstract:--

Structural safety with the minimum weight is the requirement in the aircraft design and development process. A small size passenger aircraft wing front spar design is considered in the current study. Spars are the principal structural members of wing, they correspond to the longerons of fuselage, they run parallel to the lateral axis of the aircraft from the fuselage toward the tip of the wing. The research work includes a parametric study of the wing front spar by varying the sections and material used for the front spar. This current project outlines the wing front spar considered as a beam with several stations, and the design is carried out for the external Bending Moment at each station. A finite element approach is used to verify the calculated stresses developed at each station for a given bending moment. Linear static analysis is used for the stress analysis.

Keywords:--

Spar, Stress analysis, Wing, structural integrity Aircraft, FEA.

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Heat Death of the Universe

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Abstract:--

Heat Death is a state of a Thermodynamic system having reached maximum entropy; Temperature is uniform throughout, and no energy is available to do work. So this theory is applied for the Universe where the Second Law of Thermodynamics states that Entropy that increases in an isolated system (in our case it's the Universe) Entropy, which is the number of ways in which a system can be arranged should never decrease, evolving to a state of maximum disorder (or thermodynamic equilibrium). When this happens, all energy will be evenly distributed throughout the cosmos, leaving no room for any reusable energy or heat to burst into existence. Processes that consume energy, which includes our very living on Earth, would cease or End.

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Structural Health Monitoring Through Non-Destructive Evaluation

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Karthik Shastry., Assistant Professor, R.V. College of Engineering, Mysore road, Bangalore-59, Karnataka.

Abstract:--

Indian Infrastructure development is very rapid in present decade. Over the next decade, an estimated \$1.5 trillion is required for the development, overhauling and refurbishing of new and existing civil infrastructure. Structural Health Monitoring (SHM) is an essential field for sustainable infrastructure management, which is very relevant as India competes in the global market. It is a known fact that there are numerous new and archaic buildings/ engineering structures that have known or unknown deficiencies, that require immediate attention. It will be too little and too late to wait for a disaster to incur irreparable monetary or human loss. SHM is a multi-disciplinary field where civil, electrical, computer engineering, material science and seismology can work together to increase the durability of such engineering structures. There is a dire need of society for realizing SHM systems that can automatically and quantitatively analyse the real-time condition of building structures. Among many issues, development of sensor technology, damage detection and techniques for modal parameters are the most paramount. Shortcomings of global health monitoring in damage detection has led to increasing demand for localised and Non-Destructive Evaluation techniques for fault detection systems. Relevant non-destructive evaluation (NDE) is based on minimal invasive testing and evaluation of discontinuities, without compromising the integrity of the structure. Latest development in NDE techniques utilize smart in-situ materials capable of detection and estimation of possible damage incurred in structures due to external factors. Semiconductor nanocrystals with exceptionally advanced properties of photoluminescence and electroluminescence are promising candidate in the development of such economic systems, for real time stress and strain analysis. This paper highlights the immense potential of semiconductor nanocrystals as NDE materials to monitor engineering structures.

Key words:--

Structural Health Monitoring, Non-Destructive Evaluation, Semiconductor Nanocrystals

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A Step Towards Integrating Smart City Services - A review

Chetan Solanki., Research Scholar, Gujarat Technological University, Ahmedabad

Ninad Bhatt ., Professor and Head, Electronics & Communication Department, C. K. Pithawala College of Engg. & Tech., Surat,
Gujarat, India

Abstract:--

Internet of Things (IoT) is an advanced automation and analytics system which make full use of networking, sensing, big data and artificial intelligence technology to deliver complete systems for a product or service. IoT visualizes to connect billions of sensors to the Internet and expects to use them for efficient and effective resource management in Smart Cities. This paper presents an in-depth literature survey for making a city “smart”. The purpose of this article is to summarize the present state of understanding the smart city concept and to present a proposed communication platform for the development of city services with the use of IoT concepts. Paper initially introduces the origin and main issues of smart city concept and then presents the fundamentals of a smart city by analyzing its definition and application domains. Further, a data-centric view of smart city architectures is depicted. Thereafter, Smart City concept includes many aspects of city management like smart energy, smart water management, smart transportation and smart health. Such applications are touched upon in this article. Finally, a zone wise architecture of recent smart city research is presented. The proposed framework is based on a hierarchical model of data storage and defines how different stakeholders will be communicating and offering services to citizens. The architecture facilitates step by step implementation of aforesaid services of smart city and their integration with the usage of central cloud.

Key terms:--

IoT, Smart City, Big data, Sensors, Smart city architecture, Local cloud, Central cloud.

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Performance Comparison of Mac layer protocols in Mobile Adhoc Networks

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D.Sathiya., AP/CSE, VCTW, Nammakkal

Abstract:--

Ad hoc Network based on the IEEE 802.11 standard are one of the fastest growing wireless access technologies in the world today. It is a collection of nodes which dynamically form a temporary network without any infrastructure. The broadcast nature of wireless network critically depends upon the medium access control (MAC) protocols. In this paper medium access protocol used are CSMA, MACA and Cooperative Medium Access Control (CMAC). These are compared on the basis of throughput and end to end delay using simulator, for efficient MAC protocol among these. Result shows that the CMAC performs well as compared to CSMA and MACA in terms of throughput, end to end delay.

Key terms:--

CSMA, MACA, CMAC, MAC protocols.

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A Detailed Survey on Big Data Application in Global Banking Data Management & Decision Making

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Abstract:--

In today's world of Investment Banking and other financial domain areas, the requirement and demand for the automation in data processing is very high. The data is accumulated from different data sources with increase in the rules and regulations, but that should also come with a plan of cost reduction without compromising in quality and scalability.

The underlining technologies that handles big data with should guarantee of optimization and also keep global financial institutions interest in it. So this paper or case study covers the Big Data architecture and design that would help banking institutions make key decisions. We have used Hadoop map-reduce and no-SQL flexibility also maintaining the quality, banking rules and standards. The data that is proposed to be consumed or used for this analysis is from different sources and techniques, techniques that are followed in regular banking practices. That would include "front end" or "backend data processing". Business process modeling would require data transmission OR orchestration from different sources that is required to make key and important financial decisions.

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Development of an Energy Controller for Smart Home by devolping an Automatic system

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Keerthana H., Department of Electronics and Communication,R R Institute of Technology, Chikkabanavara, Bangalore-560090

Madhu J., Department of Electronics and Communication,R R Institute of Technology, Chikkabanavara, Bangalore-560090

Abstract:--

This paper presents the development of an energy Controller in a Building Automatic system, based on the availability of natural light and thermal comfort. The system consists of an energy conservation circuit which helps in reducing the energy consumption of household appliances such as fans and lights. This circuit includes an occupancy level detector, environmental thermal comfort temperature level detectors and illumination detector. The PIR sensors are used for the occupancy detection. A pair of temperature sensors is used to detect thermal comfort temperature and Light dependent resistors are used to detect illumination. These sensor outputs are fed to a Microcontroller. The Microcontroller has the task of controlling the lights and fans according to ANSI/ASHRAE Standard 55.

Keywords:--

Temperature sensors LM35, PIR, Thermal comfort(ANSI/ASHRAE Standard 55), LDR sensors, Microcontroller .

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4th International Conference On Chip, Circuitry, Current, Coding, Combustion & Composites

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Internet of Things on insolent Health Care Monitoring System

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Abstract:--

In today's world living standard is covered to a global sensing techniques using the approach of wireless sensor network. This is a network that combines physical objects embedding software, sensors and electronics. This provides connectivity that can be used to exchange data with from one device to another device that is based on the universal global standards. By building an IoT and distributing the work of devices in the communicating network. The Internet of Things (IoT) is the network of physical objects—that enables these objects to collect and exchange data. Now a days everyone are busy with mobiles and are less concerned about their health, So this paper consist a survey of IoT in Healthcare as a heterogeneous computing, wireless communicating system of apps and devices that connects patients and health providers to diagnose, monitor, track and store vital statistics and medical information. As like the BSN (Body sensor network) or an android app for food distribution or other challenges faced. By this we can do the delivery of healthcare services (Immediate medical attention especially during times of medical emergency) and clinical information to remote locations all over the world.

Keywords:--

android, blood bank centre (BBC), BSN (Body sensor network), heterogeneous internet of things, sensors, vaccine reminders, wireless communication (WSN).

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Investigation of mechanical behaviour and surface roughness properties on electroplated FDM ABS parts.

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N.Sathishkumar., Assistant Professor, St. Joseph's College Of Engineering, Chennai.

N.Arunkumar., Professor, St. Joseph's College Of Engineering, Chennai.

G.Aravind., Undergraduate student, St. Joseph's College Of Engineering, Chennai.

Abstract:--

Additive Manufacturing is a professional production technique which builds up complex shaped parts layer by layer, as opposed to subtractive manufacturing methodologies by using .stl file as input. The mechanical strength of polymer based additive manufacturing components is not sufficient to meet the demands of functional end tooling operations. Surface roughness also should be improved for its effective implementation in various applications. Many research methodologies were proposed to improve the mechanical strength and surface properties of additive manufacturing components but post processing characterization is a kind of method which is highly concentrated in recent years by various organizations. A pilot study was conducted among the available techniques like D.C sputtering, electroforming and electroplating by using specimens which was fabricated in different orientations and it was found that the electroplating process provided good adherence of coating material over substrate when comparing to other two processes. In this study fused deposition modelling technique was used to fabricate acrylonitrile butadiene styrene parts in 0,30,45,60 and 90 degree orientations and these parts were electroplated with copper by using sulphuric acid as electrolyte. The tensile and flexural tests were carried out over electroplated and non-electroplated specimens to analyze the effect of different orientations on anisotropic behaviour of parts. Surface roughness test were also carried out over electroplated and non-electroplated specimens by using portable surface roughness tester to analyze the effect of different orientation over surface roughness properties. The results indicated that there is a significant amount of improvement in surface roughness properties and mechanical properties of electroplated specimens when comparing to non-electroplated specimens that shows a possibility for utilizing this methodology in end tooling applications.

Index Terms:--

Acrylonitrile Butadiene Styrene, Additive manufacturing, Copper, Electroplating

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Network Security in WSN Providing Selective Forwarding Algorithm

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Yeshashwini.S., C. Byre Gowda Institute of Technology, Kolar.

Shruthi.S.R., C. Byre Gowda Institute of Technology, Kolar.

Sushma.G.K., C. Byre Gowda Institute of Technology, Kolar.

Abstract:--

It explaining about how to secure computer networks, the network security mainly includes “cybercrime technology” and “hacking” .some hackers will damages the web server and replace their logo with pornography, they will hack e-mails, credit card number from online shopping sites. This paper addresses the ethical hackers: their skills, attitudes etc. Hacker should have the brilliant mind to hack anything, some rules he should follow to become an ethical hacker called as “penetrate testing”. The rules consists the knowledge of HTML, java script, computer tricks, breaking, cracking etc. WSN’s having many types of attacks because it deployed in open and unprotected environment. So that we are using one algorithm to detect the attack called as “selective forwarding attack” and it damaged attacks in multi-hop routing protocols. Detection algorithm based only on the neighbourhood details and it detects SFA’s with high accuracy. like this we can detect attacks and provide security for the system. Network security is main issue of computing because types of attacks are increasing day by day. The malicious nodes create a problem in the network. So we have to provide network security elements such as confidentiality, integrity and availability and these vectors.

Keywords:--

Cybercrime, Hacking, Penetrate testing, Security, Wireless sensor network .

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E-Drive for Dual Powered Eco-Friendly Hybrid Dory Boat in Fishery

G.Vaishnavi., PG Scholar – Power Electronics and Drives, Mepco Schlenk Engineering College, Sivakasi-Tamil Nadu

Dr.S.Muralidharan B.E., M.S., Ph.D.,FIE., Professor, Department of Electrical and Electronics engineering, Mepco Schlenk Engineering College, Sivakasi – Tamil Nadu

Abstract:--

Fossil fuels are the stage of extinction. Future generation depends on the renewable energy sources which are available abundant in nature. Renewable energy sources such as solar, wind, fuel cell, biogas sources are fast emerging energy sources used in application of hybrid vehicles on both land way and waterway transportation. In marine sector diesel engines are needed to maintained frequently. Dory boats are the means of transportation for rural fishing and passenger carrier in tourist area. On accounting to the conventional ferry/Ro-Ro/tugboats owner's revenue report, about 45% of their revenue is spend on the purchase of fuel like diesel. In addition, fuel spillage in water bodies can cause a chance of threat to sub-marine diversity. In order to cut down the fossil fuel cost and to reduce the spillage of fuel in water hybrid eco-friendly dory boats is designed, which are powered by renewable energy like battery and solar cells. In order to overcome the uncertainty caused by solar output, battery is introduced to act as a backup source during adverse condition. With the help of power electronic converter, output voltage of battery and solar cells are combined to get the maximum efficiency at all environmental condition. Variable input voltage's are processed with the help of multi-input power converters. In this application proposed dual input buck-boost converter which is mainly used to buck-boost the output dc voltage and also to supply power to the load individually or simultaneously according to our requirement. In conventional dory boats, Ic engine's are the major reason for noisy operation and CO2 emission. In order to overcome this strategy conventional engine's are replaced by excellent performing noiseless BLDC motor drive which is zero percent emission. To put it in nutshell, eco-friendly hybrid dory boats can reduce the expenditure on area of fuel cost and maintenance cost and water pollution. On the whole hybrid dory boats can improve the style of social living of boat owner's and user's.

Keywords:--

Solar PV panel , lead-acid battery, buck-boost converter, BLDC motor

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Improved Design of Nano Composites through Parameter Leveraging

Rahul Basu., Professor, Adarsha Institute of Technology, Off Intl Airport Road, Kundana, Bangalore 561120

Abstract:--

Composites have been used for many applications seeing use in the Construction, Automotive and Aerospace Industries. The emergence of nano-materials has permitted design of new materials like nano composites. These have interfaces at molecular length scales and large interaction areas. In particular, the area to volume ratio is high which permits the tuning of volume fraction of secondary components without loss of desired properties. New areas of design can use chemical and phase chemistry along with electrical electronic and mechanical properties. The effect of secondary contributions on the design of fracture resistant nano composites is outlined.

Keywords:--

Nano; composites; fracture; toughness; phase transformations

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Anekal, Bengaluru, 16th -17th November 2017

A Mechanical Analogy for Heat Transfer in Surface Films with Transformations

Rahul Basu., Adarsha Institute of Technology, Mechanical Engineering Dept, Kundana, Bangalore 562110

Abstract:--

A model for describing effects of a variable frequency heat source on the surface of a film is developed. The effect of material parameters is analyzed to describe possible attenuation of the thermal fluctuations and sustaining these through coupling with the surrounding matrix. Application to amorphous alloy formation with phase field concepts is described. An analogy with a damped oscillator driven by surface fluctuations gives the relation of non-dimensional parameters like the Stefan, Fourier and Biot numbers to surface heating with convection. Recent discoveries of high temperature super-conductivity in the femto -second regimes are included. Impurities and stress fields caused by large oxygen atoms and interaction with the phonon field may be responsible for such effects especially in the "crust" of oxide films. Phonon interactions with driven oscillators in the film may be possible and design of suitable materials to give sustained longer duration high temperature effects is outlined.

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Anekal, Bengaluru, 16th -17th November 2017

Cooperative Networks amongst the Indian Ocean States

Rahul Basu., Professor, Adarsha Institute of Technology, Kundana, BANGALORE 562110

Abstract:--

Most SAARC countries are near the Indian Ocean and are dependent on its resources for Trade, fishing, agriculture and Tourism. Their climate and weather patterns are affected by the Monsoons which originate over the ocean mass and move on to land and back annually. Besides Global Warming and heavy rainfall there are dangers to life and business through floods, Tsunamis and cyclones. Suitable warning systems which are coordinated can give member states advance notification of any impending disasters originating in the ocean areas. Another area of cooperation is in the Renewable energy field. Wind, solar and tidal energy networks can use the ocean as a storehouse of energy. Island countries like Seychelles, Mauritius, can also come into the ambit of such ocean based networks which can be useful for Meteorology, Trade, Fisheries and Energy.

Keywords:--

Productivity, GNP, Per capita income, DRM, SAARC

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Anekal, Bengaluru, 16th -17th November 2017

Investigation of Aluminium Based Composite Material Using Fly Ash

D. Kumaravel., Assistant Professor, Sri Shanmugha College of Engineering and Technology, Salem, Tamil Nadu.

K. Arunkumar., UG Scholar, Sri Shanmugha College of Engineering and Technology, Salem, Tamil Nadu.

Abstract:--

This research work deals with the experimental investigation of composite material of aluminium with fly ash. Aluminium material grade 6063 is chosen for this investigation of metal matrix composites. There has been an increasing interest in composites containing low density and low cost reinforcements. Fly ash is low cost material available in large quantities which is obtained from the combustion of coal in power plants. Hence, composites with fly ash as reinforcement are likely to overcome the cost barrier for wide spread applications in automotive and small engine applications. By using stir casting method, composite can be obtained with aluminium. We used composite material to make a much effective prototype or mechanical structure having very good mechanical properties. Properties of composite materials is completely depends on the method used to produce it. Aluminium with Fly ash materials were fabricated using Stir casting method. After composite matrix the materials is observed and investigated. Dry sliding wear behavior of the composites in the cast conditions is studied at different loads with the help of Pin-On-Disc wear test machine. Finally, mechanical properties such as hardness and tensile strength have been investigated.

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A Novel Bipartite Matching and memetic algorithm for defect- and variation-tolerant logic mapping in nano crossbars

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MR Sunil Gone., associate Prof, Dept of ECE, Sri Venkatesa Perumal College of Engineering & Technology, Puttur, Andhra Pradesh.

Abstract:--

High defect density and extreme parameter variation make it very difficult to implement reliable logic functions in crossbar-based nanoarchitectures. It is a major design challenge to tolerate defects and variations simultaneously for such architectures. In this paper, a method based on a bipartite matching and memetic algorithm is proposed for defect- and variation-tolerant logic mapping (D/VTLM) problem in crossbarbased nanoarchitectures. In the proposed method, the search space of the D/VTLM problem can be dramatically reduced through the introduction of the min-max weight maximumbipartite- matching (MMW-MBM) and a related heuristic bipartite matching method. MMW-MBM is defined on a weighted bipartite graph as an MBM, where the maximal weight of the edges in the matching has a minimal value. In addition, a defect- and variation-aware local search (D/VALS) operator is proposed for D/VTLM and embedded in a global search framework. The D/VALS operator is able to utilize the domain knowledge extracted from problem instances and, thus, has the potential to search the solution space more efficiently. Compared with the state-of-the-art heuristic and recursive algorithms, and a simulated annealing algorithm, the good performance of our proposed method is verified on a 3-bit adder and a large set of random benchmarks of various scales.

Index Terms:--

Fault tolerance, logic mapping, memetic algorithm (MA), nanoarchitecture, nanoelectronics.

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Structural Health Monitoring Through Non-Destructive Evaluation

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Abstract:--

Indian Infrastructure development is very rapid in present decade. Over the next decade, an estimated \$1.5 trillion is required for the development, overhauling and refurbishing of new and existing civil infrastructure. Structural Health Monitoring (SHM) is an essential field for sustainable infrastructure management, which is very relevant as India competes in the global market. It is a known fact that there are numerous new and archaic buildings/ engineering structures that have known or unknown deficiencies, that require immediate attention. It will be too little and too late to wait for a disaster to incur irreparable monetary or human loss. SHM is a multi-disciplinary field where civil, electrical, computer engineering, material science and seismology can work together to increase the durability of such engineering structures. There is a dire need of society for realizing SHM systems that can automatically and quantitatively analyse the real-time condition of building structures. Among many issues, development of sensor technology, damage detection and techniques for modal parameters are the most paramount. Shortcomings of global health monitoring in damage detection has led to increasing demand for localised and Non-Destructive Evaluation techniques for fault detection systems. Relevant non-destructive evaluation (NDE) is based on minimal invasive testing and evaluation of discontinuities, without compromising the integrity of the structure. Latest development in NDE techniques utilize smart in-situ materials capable of detection and estimation of possible damage incurred in structures due to external factors. Semiconductor nanocrystals with exceptionally advanced properties of photoluminescence and electroluminescence are promising candidate in the development of such economic systems, for real time stress and strain analysis. This paper highlights the immense potential of semiconductor nanocrystals as NDE materials to monitor engineering structures.

Key words:--

Structural Health Monitoring, Non-Destructive Evaluation, Semiconductor Nanocrystals

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An Efficient Public Distribution System using IOT, GSM and BAN Technology

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Rajashree Nambiar., Electronics and Communication Engineering , Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal Udupi , India

Sowmya bhat., Electronics and Communication Engineering , Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal Udupi , India

Sachin bhat., Electronics and Communication Engineering , Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal Udupi , India

Avinash. N.J., Electronics and Communication Engineering , Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal Udupi , India

Abstract:--

In India, government provides various ration materials to economically backward class of people at lower rates. Fraudulent conduct of concerned authorities may lead to improper measurements of the goods or selling of the unused goods without informing ration card holder and government. So central monitoring system is required, which is to be linked with government offices, shopkeeper and the ration card holder. Keeping this in mind, an efficient public distribution system is proposed in this paper using IOT, GSM, BAN technologies. Automatic monitoring of the public distribution system can overcome all the illegal activities by using BAN transmitter & amplifier receiver, where the details about users are provided. Using such a system, Government will be able to control the transactions of ration shop. In this system once the distribution is done an automatic message is sent to customer and a mail to concerned government office.

Keywords:--

Public distribution system, ration shop monitoring, BAN, IOT,GSM

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SE2R2: Secure Energy Efficient and Reliable Routing Protocol in Presence of Phishing Attacks for WSNs

Shishir Mathew., Department of Computer Science and Engineering, M.S.Ramiah Institute of Technology, Bangalore-560091, India

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Abstract:--

Phishing is a form of social engineering. It is an attempt to acquire or steal sensitive information such as usernames, passwords and other sensitive information for malicious reasons. In wireless sensor networks (WSNs), the sensor nodes are durable, economical and are designed to be disposed. Energy is limited for wireless sensor networks and has to be managed optimally. Data delivery at the base station (BS) is expected to be reliable. Efficient energy of any application of WSNs is important. Routing in WSNs is very important. Therefore, routing should be done in a sensitive manner so that the energy is saved. We present a secure routing protocol for WSNs which is energy efficient and reliable in its routing technique.

Key terms:--

NS2, M-LEACH, Phishing, Base Station, Deputy Cluster Head.

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Optimization of Weld Quality of SS410 in TIG Welding

D Kumaravel., Assistant Professor , Sri Shanmugha College of Engineering and Technology, Salem, Tamil Nadu

K.Arunkumar., UG Scholar ,Sri Shanmugha College of Engineering and Technology, Salem, Tamil Nadu

Abstract:--

Research work deals with the identification of best combination of welding process for SS410 metal by using TIG welding. Welding voltage, gas flow rate and strike off distance were selected to ascertain with effect on metal hardness of the weld bed. NDT technique is used to detect the defect of weld bed. SS410 have gathered wide acceptance in the fabrication of the light weight structures requiring a high strength to weight ratio and good corrosion resistance. Modern structures concepts demand reduction in the weight as well as the cost of the production and fabrication of the materials. 410 SS joints are inevitable for certain applications due to unique performances such as corrosion resistance and mechanical properties. TIG welding is the most conventional method used due to material and energy saving. An attempt was made in this study to improve the hardness and tensile strength by tungsten inert gas welding of 410 SS. Optimum parameters were obtained using a statistical approach. Impact and hardness tests were applied to the joints. This present work deals with a novel approach for the optimization of welding parameters on SS410 welded joints with multiple responses based on orthogonal array by grey relational analysis. Experiments are conducted by varying the welding parameters in Tungsten inert gas welding. In this study, welding parameters namely voltage, gas flow rate and strike off distances are optimized with the considerations of multi responses such as impact strength and hardness. A grey relational grade is obtained from the grey analysis. Based on the grey relational grade, optimum levels of parameters have been identified. The ultrasonic testing helped to detect the defects in the welded segment for further acceptance. Experimental results have shown that the responses in welding process can be improved effectively through this novel approach.

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Smart Wearable for Women Safety

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Abstract:--

Crimes against women, as many as 2.24 million crimes were reported over the past decade. 26 crimes against women are reported every hour, reveals an IndiaSpend analysis based on the last decade's data. Personal safety is one of the most important concerns for women, as crimes against them have been increasing. Various safety mobile Apps are flooding the market, yet they are not being of any use. This paper highlights the flaws in the existing Apps and also describes a smart wearable device that is easily accessible in panic situations.

Key words:--

Women Safety, Bluetooth, Microcontroller Wearable device, Mobile application, GPS.

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Charge Controller Operated DC Motor Circuitry for Solar Panel Using Parallel Regulation Technique

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Abstract:--

In a world of increasing energy demand, it is imperative to come up with innovative solutions to reduce and conserve energy use. So the solar energy comes across a good option. Solar power generation has emerged as one of the most rapidly growing renewable sources of electricity. Solar-powered systems consist of solar panel, charge controller, battery, and load. Solar charge controller plays an important role as the system's overall success depends mainly on it. It is considered as an important link between the solar panel, battery and load. The series type of regulation 'wastes' a lot of energy while charging the battery which is used to operate DC motor, as the control circuitry is always active. So in this paper parallel regulation technique is used but instead of wasting the charging current it is used to keep battery topped-up.

Key words:--

Solar energy, Charge controller, Parallel regulation

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Application of Power Electronics in Transmission of Electrical Energy

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Abstract:--

In our paper we have compared various Thyristor and its working principal suitable for various application. Applications of power electronics range in size from a switched mode power supply in an AC adapter, battery chargers, audio amplifiers, fluorescent lamp ballasts, through variable frequency drives and DC motor drives used to operate pumps, fans, and manufacturing machinery, up to gigawatt-scale high voltage direct current power transmission systems used to interconnect electrical grids. Power electronic systems are found in virtually every electronic device.

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Different ADC Architecture Suitable for Your Application

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Abstract:--

Selecting the proper ADC for a particular application appears to be a formidable task, considering the thousands of converters currently on the market. A direct approach is to go right to the selection guides and parametric search engines, such as those available on the Analog Devices website. Enter the sampling rate, resolution, power supply voltage, and other important properties, But it's usually not enough. In this paper we will discuss various ADC suitable for various industrial application.

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Effect of Process Parameters on the Mechanical Properties of the Components Made From Acrylonitrile Butadiene Styrene (ABS) Using 3D Printing Technology

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Abstract:--

3D printing is one of the latest technologies used in development of prototypes. Many researchers have carried out a lot of work on the materials used and also on the type of 3D machines. In the present investigation a 3D printing machine was used based on Cartesian co-ordinates. The material used was Acrylonitrile Butadiene Styrene (ABS). The process parameters infill and layer thickness was varied to find out the structure and strength of the product. Around 9 samples were prepared by varying the infill and layer thickness. The prepared specimens were tested for surface roughness and hardness. The specimens were also observed under scanning electron microscopy (SEM) for their structure. It was observed that the specimen with highest infill and least layer thickness has produced better results in terms of roughness and the specimen with highest infill and largest layer thickness has produced better results in terms of hardness.

Key words:--

3D printing, Infill Percentage, Layer Thickness, ABS.

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“Data Storage On Fingernail”

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Abstract:--

Recently, there have been rapid developments in the field of information technology, resulting in the need to generate, store, and transport a large amount of information while ensuring data security, an important issue in today's digital age. To meet future demands in information technology, femtosecond laser pulse processing offers a powerful tool for developing new high-capacity devices because it allows fabrication of three-dimensional (3-D) structures inside a wide range of transparent materials. In particular, multilayered 3-D optical bit recording is a promising technique for nextgeneration computing systems because it offers a large recording capacity by stacking many recording layers without increasing the recording density per layer . Our goal is to realize optical data storage in a human fingernail for highly secure data transportation that does not suffer from problems such as theft, forgery, or loss of recording media .

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Design of Reliable Low-Power Multiplier Using Fault-Tolerant Technique

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Abstract:--

A Reliable low-power and fast accelerated multiplier is implemented by using a redundant fault tolerant technique, "Input Output Logic Based"(IOLB) ,this technique is implemented in the fast accelerated dada multiplier is proposed by implementing two algorithms i.e. partial products are obtained in to two parts and integration of a designed hybrid final adder with dada multiplier and obtained partial products are also implemented by using array based multiplier ,tradeoffs between these two multipliers are compared with and without IOLB logic by using the fault tolerant technique power of the multiplier is reduced to 31.1 %, area overhead of the gate's required in the multiplier is 23.2% ,speed of the multiplier is increased to 40.1%

Keywords:--

Redundant fault-tolerant technique, "input-output logic based", column compression

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Smart Trolley in Mega Mall

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Abstract:--

Microcontroller based design, has acquired the status of most happening field in electronics. This is highly specialized field that has the power of integrating thousands of transistors on single silicon chip. Nowadays, in mall for purchasing variety of items it requires trolley. Every time customer has to pull the trolley from rack to rack for collecting items and at the same time customer has to do calculation of those items and need to compare it with his budget in pocket.

After this procedure, customer has to wait in queue for billing. So, to avoid headache like pulling trolley, waiting in billing queue, thinking about budget, We are introducing new concept that is "SMART TROLLEY IN MEGA MALL".

In modern era, for automation of mall we are developing a microcontroller based TROLLEY which is totally automatic. It follows the customer while purchasing items and it maintains safe distance between customer and itself. Only customer has to hold the barcode side of the product wrapper in front of barcode scanner. Then corresponding data regarding product will be displayed on display. By using this trolley, customer can buy large number of product in very less time with less effort. At the billing counter, computer can be easily interfaced for verification and bill print out.

Keywords:--

Optical sensor, Barcode scanner, Development Board, Zigbee Technology, microcontroller.

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Design and Performance Analysis of All Terrain Mobile Robot

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Abstract:--

This work relates to the design of a holonomic and non-holonomic mobile platform and test for the mobility parameters that effects its performance. The system is driven by four-wheel drive mechanism where all the wheels can be steered by two centralized steering actuators. Mathematical model describing the kinematic and dynamics modelling of standard steered and non-steered wheels, which will influence the size, orientation and position of the mobile platform, is mentioned. In addition, this work relates to the study of the performance of the all-terrain mobile robot on various terrain with different linear controller such as P, PD and PID for the control system. In particular, we compare various mobility parameters like the torque required by system, power or current consumed and robustness of the mobile robot on different terrain like ceramic, concrete and asphalt road by employing different controllers to analyze its performance. The experimental setup includes, all terrain mobile robot, rotary encoders, current sensors and circuitry board that houses the mbed LPC1768, Hercules Motor Driver IC and Bluetooth for communication. This experiment is conducted for number of trials on each terrain with each controller to understand behavior of robot and also measured basic factors like voltage, current, distance travelled, time taken to cover the distance. Derivatives of basic parameter like velocity, power, torque, co efficient of friction are also calculated. Finally, various maneuverability of the proposed mobile robot both in holonomic and non-holonomic configuration like straight movement, point turn on different surfaces are tested.

Keywords:--

Holonomic robots, Non-Holonomic robots, Mobile Robot, Kinematics, Linear Controller, P, PD, PID

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Detection of Human Face in a Meeting Using Audio Sensitive Camera

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Abstract:--

A meeting outcome is a desired result or product that will be achieved by the end of the meeting. It is also necessary to take note of key points made in the meeting. In this paper we achieve this goal using an autonomous system. The entire system is built on both hardware and software components. The system is developed on an embedded board containing a video recording camera, audio sensors and a Dynamixel motor. The camera rotates to the direction the sound originates and starts to record. The recorded video is fed to the software part where face detection is done. Face detection is a computer technology that is used to identify human faces in a digital images. We make use of three color models like RGB, HSV and YCbCr to perform skin segmentation to obtain probable regions where human face is present. We determine the best color model which is suitable for skin segmentation. From the segmented image obtained from the previous step, Lucas-Kanade Optical Flow Method [6] is used in determining the location of face in the frame.

Keywords:--

Embedded board, Audio sensors, Camera, Shell Scripting, Color models, Skin Segmentation, Optical Flow method.

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