ICETEST – 18

2ND INTERNATIONAL CONFERENCE ON EMERGING TRENDS IN ENGINEERING, SCIENCE AND TECHNOLOGIES

Warangal , Telangana

16th - 17th February, 2018

Organized by:

Balaji Institute of Technology & Science

and

Institute For Engineering Research and Publication

From Director's Desk ….

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

On behalf of ***Institute For Engineering Research and Publications (IFERP)*** and in association with ***Balaji Institute of Technology & Science,*** Warangal, Telangana. I am delighted to welcome all the delegates and participants around the globe to ***Balaji Institute of Technology & Science, Warangal, Telangana*** for the ***"2nd International Conference on Emerging Trends in Engineering, Science and Technologies (ICETEST-18)"*** Which will take place from ***16th -17th February '18***

Transforming the importance of Engineering, the theme of this conference is ***"2nd "International Conference on Emerging Trends in Engineering, Science and Technologies (ICETEST-18)"***

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

I congratulate the reviewing committee, coordinator **(IFERP & BITS)** 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 ***Warangal, Telangana.***

Sincerely,

Rudra Bhanu Satpathy,

Preface

The ***"2nd International Conference on Emerging Trends in Engineering, Science and Technologies"*** is being organized by ***Balaji Institute of Technology & Science***, Warangal, Telangana, in association with ***IFERP- Institute For Engineering Research and Publication*** *on the 16th- 17th February' 2018.*

Balaji Institute of Technology & Science has a sprawling student –friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the smart city of Warangal in Telangana.

The ***"2nd International Conference on Emerging Trends in Engineering, Science and Technologies"*** was a notable event which brings academia, researchers, engineers, industry experts and students together.

The purpose of this conference is to discuss applications and development in area of **"Engineering, Science and Technologies**" which were given international values by ***Institute For Engineering Research and Publication (IFERP).***

The International Conference attracted over 121submissions. Through rigorous peer reviews 98 high quality papers were recommended by the Committee. The Conference aptly focuses on the tools and techniques for the developments on current technology.

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

Chairman Message

Dr. A. RAJENDRA PRASAD REDDY,
Hon'ble CHAIRMAN
Balaji Group of Institutions,
Narsampet, Warangal (T.S).

MESSAGE

It pleases me no end to learn that Balaji Institute of Technology & Science is organizing a two-day International Conference on "Emerging Trends in Engineering, Science and Technologies" (ICETEST-18).

As the very title suggests, the scope of the proposed conference is very vast and covers wide spectrum of areas. In fact, it seeks to cover the entire gamut of disciplines that constitute engineering as a whole.

It is all the more heartening to note that apart from academicians and industry professionals, students of post graduate sections and research scholars are likely to take an active part and will present research papers. By doing so, they will not only gain greater insight in to their discipline, but also contribute to the existing body of knowledge in that domain.

I am certain that the Conference will prove to be a healthy point of academic interaction and that our students and faculty members alike will benefit and draw inspiration from the talks and presentations of distinguished guests.

Dr. A. RAJENDRA PRASAD REDDY

Principal Message

Dr. V. S. HARIHARAN,
Principal
Balaji Institute of Technology & Science,
Narsampet, Warangal(T.S).

MESSAGE

With a sense of pride and fulfilment. It is my pleasure to say that Balaji Institute of Technology & Science is fulfilling its commitments for the cause of education.

The International Conference " Emerging Trends in Engineering, Science and Technologies " (ICETEST-18) is our initial step towards the contribution of value based education in the field of technology.

By providing an opportunity and platform for scholars to demonstrate their knowledge and students to imbibe the knowledge from seniors, we feel that this is a necessary contribution in the development of value based education in the State of Telangana.

I welcome all those who have responded to our invitation to take part in the conference with an assurance that this is only the first of such conferences that we intend to conduct with your cooperation.

Dr. V.S.HARI HARAN

Convener Message

Dr. S.Manikandan,
B.E. (EEE).,M.Tech (HVE).,Ph.D (ECE).,LMPSLV.,MIAENG.,FISRD.,
Convener & Professor,
Department of Electrical and Electronics Engineering
Balaji Institute of Technology & Science
Narsampet(M), Warangal District

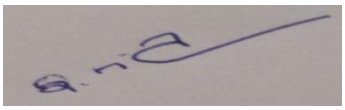
MESSAGE

It gives me great pleasure that the 2nd International Conference on “Emerging Trends in Engineering, Science and Technologies 2018 (ICETEST 2018)” is being organized by our institution. The objective of the conference is to bring researchers, academicians & students of different disciplines on to a single platform.

This Conference provides an opportunity to young researchers to exhibit their innovative ideas and interact with experts. I am sure that this event will encourage interdisciplinary research.

I am certain that this conference will offer plenty of networking opportunities, and will facilitate interaction among leading scientists, researchers, faculty members, and students.

I congratulate all the delegates and participants for being part of this great event of ICETEST -2018.



Dr. S.MANIKANDAN

ICETEST-18

2nd International Conference on Emerging Trends in Engineering, Science and Technologies

Keynote Speakers

Dr. B. Sateesh Kumar.,

B.Tech(CSE), M.Tech(SE), Ph.D(CSE), MISTE
Associate Professor
Dept. of Computer Science & Engineering
JNTUH College of Engineering Hyderabad
(Autonomous)
Training and Placement Officer, Life Membership in ISTE

MESSAGE:

It is my pleasure to be the part of 2nd International Conference on Emerging Trends in Engineering, Science and Technologies (ICETEST-18) to be held on 16th to 17th February, 2018, being organized by IFERP-International and Balaji Institute of Technology and Science, Warangal, Telangana. 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 science, engineering, environment, and technology.

It is also interesting that Balaji Institute of Technology and Science, Warangal, Telangana 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

Professional Summary

Total teaching experience is 15 years.
BOS member at JBIET(Autonomous) for Electronics and Computer Engineering.
I am the ORACLE academy official INSTRUCTOR from MAY-2016.

Professional Experience - Teaching Experience

- Assistant Professor, JBREC, Moinabad (06-12-2004 - 30-11-2006)
- Assistant Professor, P. Indra Reddy Memorial Engg. College, Chevella (25-09-2002 - 05-11-2004)
- ASSOCIATE PROFESSOR, JNTUH (2016 - Till Date)
- Assistant Professor, JNTUH (2006 - 2015)

Events Participated/Organized

- Participated in a Refresher Course on Cloudera: Big Data and cloud Analytics, UGC ASC, JNTUH, HYDERABAD
- Participated in a Refresher Course on Research Methodology, UGC ASC, JNTUH, HYDERABAD
- Participated in a Orientation Course on Information Technology, UGC ASC, JNTUH, HYDERABAD
- Participated in a Refresher Course on Data Mining and Data Warehouse techniques, UGC ASC, JNTUH, HY

Dr. P.C.Srikanth.,

Professor,
Dept. of ECE.,
Malnad College of Engineering, Hassan
Vice Chairman - IEEE Photonic Society (USA),
Karnataka Chapter
INDIA

MESSAGES:

It is my pleasure to be the part of ***2nd International Conference on Emerging Trends in Engineering, Science and Technologies*** (ICETEST-18) to be held on 16th - 17th February, 2018, being organized by ***IFERP and Balaji Institute of Technology and Science***, Warangal, Telangana. 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 Engineering & Engineering 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 Engineering, Science and Technologies.

BIOGRAPHY

P. C. SRIKANTH had his schooling in the same town and graduated in Electronics & Communication Engineering in 1987 from Malnad College of Engineering, Hassan, Karnataka, India securing a first class with Distinction. Dr. P. C. SRIKANTH completed his M.Tech. Degree in 1996 from Indian Institute of Technology, Kanpur in the area of LASERS, and obtained his Ph.D. from VTU Belgaum . He worked in the applied photonic lab IISc, Bangalore during his PhD. Starting as a Lecturer 1987, he became Assistant Professor In 1999, Professor in 2011 in Malnad College of Engineering, Hassan, Karnataka, India.

Dr. P. C. SRIKANTH is Senior Member IEEE (USA), Life Member ISTE, Currently he is s Vice Chairman - IEEE Photonic Society (USA), Karnataka Chapter Bangalore and Secretary of All India IEEE Photonic society. Dr. P. C. SRIKANTH had a deep involvement in Optical networks, was awarded as TOP 100 ENGINEERS-2011 by International Biographical Centre, St Thomas' Place, ELY, CB7 4GG Great Britain. He was Selected for Marquis Who's Who in Science and Engineering 2011-2012 (11th Edition), and also in 2016-2017 (12th Edition) New Providence, NJ 07974, USA.

He received Best paper award for the following papers, Modeling of Photonic Crystal Ring Resonator Temperature Sensor during 2014, A Novel Quantum Dot Automata Based Design For Multiplexers during 2015 and Detection of Fluoride Contaminated Water in Dental Applications during 2015 at International Conferences. His Research areas includes, Optical Communication and Networks, Photonic Band gap Crystals, Wireless Networks, LASERS and Quantum Electronics.

Dr. Vijay Tharad.,

Director Operations at Corporate Professional Academy
Technical Training & Career Development
Mechanical or Industrial Engineering

MESSAGE

I am extremely happy to note that IFERP- Institute for Engineering Research and Publications and Balaji Institute of Technology and Science, Warangal, Telangana is organizing the 2nd International Conference on Emerging Trends in Engineering, Science and Technologies (ICETEST-18) during 16th - 17th February, 2018. I am also happy to know that the institute is bringing out a Souvenir on this occasion.

I hope this conference will provide an opportunity to all the participants to interact with each other & discuss on the issues related to the current research and latest advancement and Recent Challenges in Engineering and Technology. The deliberation at this conference will, i am sure, enable Academicians, Practitioners, Consultants, Research Scholars, Industry leaders and other Experts to exchange ideas and suggest measures for meeting the evolving challenges and the exchanges will hopefully benefit the community.

I wish the conference a great successs

BIOGRAPHY

Dr. Vijay Tharad is currently Director Operations at Corporate Professional Academy for Technical Training and Career Development and caters to the Technical Training needs of employees of corporate world and provides consultancy services to Universities and Engineering Colleges for Career development of engineering students for smooth switch over from Academic world to corporate culture and work ethics. He has recently retired from Multinational Company Caterpillar India Private Limited after serving them for over 25 years where he was Chief Technical Training consultant for Cat products mainly Diesel Engine, Generator sets and Heavy Earth Moving Machines.

Vijay Tharad has an extensive background in diesel engine, modern electronic controlled diesel engine and latest after treatment technology since 1989. He was involved with training thousands of Cat employees and other corporate employees on emission control systems to help diesel and alternative combustion engines meet future regulated limits. He has authored training material on Diesel Emissions and Their Control, a comprehensive handout, and continues to present seminars in diesel engine technology, selective catalytic reduction for diesel engines, and exhaust gas recirculation.

ICETEST-18

2nd International Conference on Emerging Trends in Engineering, Science and Technologies

Warangal, Telangana, February 16th - 17th, 2018

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ICETEST - 18

2nd International Conference on Emerging Trends in Engineering, Science and Technologies

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ABSTRACTS

ICETEST – 18

Organized by

Balaji Institute of Technology & Science, Warangal, Telangana
and
Institute For Engineering Research and Publication (IFERP)

2nd International Conference on Emerging Trends in Engineering, Science and Technologies

Warangal , Telangana, 16th -17th February, 2018

Implementation of a Perceptron-based Artificial Neural Network Classifier Circuit on FPGA Hardware

Amit R. Chavan., Project Engineer (ACTS), Centre for Development of Advanced Computing (C-DAC), Pune
Ashwini Kumar Arya., Project Engineer (ACTS), Centre for Development of Advanced Computing (C-DAC), Pune

Abstract:--

This paper elaborates the implementation of an unsupervised Artificial Neural Network (ANN) on FPGA hardware for data classification. ANN is the best option to classify a large amount of data into several desired classes as per the characteristics and parameters of the given data samples. Implementation of an unsupervised ANN on a chip eliminates the additional stage of software simulation of the ANN for the given dataset, i.e. training of ANN using a software and then implementation of trained ANN on FPGA chip. The Unsupervised ANN is implemented on Xilinx Virtex-4 FPGA, which consumes less on-chip resources, consuming less power at optimum speed.

Keywords:--

Artificial Neural Network (ANN), Data Classification, Field-Programmable Gate Array (FPGA), Heaviside Step Function, Neural Network Implementation, On-chip Neural Network Training, Perceptron, Unsupervised Learning.

Characterization of a Diesel Engine Fueled with Neem oil Methyl Ester and Dimethyl Carbonate

Ankita Gupta., School of Mechanical Engineering, KIIT University, Bhubaneswar-751024
Abhinav., School of Mechanical Engineering, KIIT University, Bhubaneswar-751024
B.Prasahanth., School of Mechanical Engineering, KIIT University, Bhubaneswar-751024
Swarup Kumar Nayak., School of Mechanical Engineering, KIIT University, Bhubaneswar-751024

Abstract:--

In the present work Neem oil is used as a hotspot for biodiesel generation by means of base catalyzed transesterification and biodiesel created all the while is joined with an added substance (Dimethyl Carbonate) in shifting volume extents to make a bit of test energizes for engine application. Analyses were run out on a diesel motor under differing loading condition to examine around the performance and emission qualities of the motor fuelled with the present test fuels. The aftereffects of examination show an increment in brake power and brake warm effectiveness with burden for all test powers. It is likewise noted that the brake warm effectiveness picks up with the rate of added substances in the test bombs. The brake particular fuel utilization diminishes with increment in added substance rate in the test bombs. The exhaust gas temperature increments practically directly with burden for all test powers and abatements with an increment in added substance rate in the fuel. Results demonstrate that the CO and HC outflows have a tendency to decrease with the increment in the added substance rate in biodiesel. The smoke and NOx outflows additionally diminish with increment in added substance rate in the biodiesel fuel.

Keywords:--

Neem oil, Biodiesel, Additive, Performance, Emission

Extraction of Superficial and Volumetric Features from 3D Color Images

A.Arun Kumar., Professor, Department of CSE, Balaji Institute of Technology & Science Warangal.
N.Devender., Assistant professor, Department of CSE, Balaji Institute of Technology & Science Warangal.
Santosh Kumar., Assistant professor, Department of CSE, Balaji Institute of Technology & Science Warangal.

Abstract:--

The three-D objects in physical structure connected computer Games area unit hollow plane figure meshes with textures applied on them. On the other side, volumetric data illustration not solely stores the outer surface options for example visualization of 3D MRI/CT known ledge is all about within the elements too. This needs additional video memory. Most of the particular 3D volume data generation particularly by MRI scanners area unit gray level pictures. In this paper proposed a technique to make colors for gray images.

A Secured Cryptographic Technique for Protecting Online data in the Cloud

Ashish Ladda., Assistant Professor in CSE Dept, Balaji Institute of Technological Sciences.
Sandhya Mekala., Assistant Professor in CSE Dept, Balaji Institute of Technological Sciences.

Abstract:--

Cloud computing may be an in style space of analysis for inventors. And it's important in information sharing applications. On cloud the info being shared should be secure. The pliability and therefore the potency of the info is rely upon the protection parameter. To attain purpose we tend to outline new algorithms that is rely upon public key cryptography and outline constant size cipher text by exploitation these key we are able to decode cipher text. The opposite encrypted files except this cipher stay personal. The survey depicts some encoding schemes introduced during this information privacy for firmly and economical sharing of confidential information over a secure channel. Recently analysis concentrate on aggregation of keys of the keys in signal aggregation key that is assistance on load of network information sharing being vital practicality in cloud storage implement show to firmly, expeditiously, and flexibly share information with others.

Keywords:--

Cloud storage, data sharing, key-aggregate encryption, patient-controlled encryption.

Homomorphic Decryption Technique in Cloud Computing for Privacy Preserving

G.Ashmitha., M.Tech-CSE, Kakatiya Institute of Technology
K.Jayashree., M.Tech-CSE, BITS, Narsampet.
Syed Abdul Moeed., M.Tech(Ph.D)-CSE. Mewar University.

Abstract:--
The rapid development of cloud computing technology makes the cloud service model has a vast application space, this model allows users to have the incomparable computing power and storage space and other advantages.In the cloud service mode, the privacy and security of users is the primary problem in their promotion and application. How to ensure the privacy of data while ensuring the availability of data is a major challenge in the process of computing data. Homomorphic encryption As a key measure to solve this problem, it has become a hot issue in recent years both at home and abroad.This paper introduces the research progress of cloud computing privacy security and homomorphic encryption, the classification of homomorphic encryption algorithms, the theory of security, the realization technology of homomorphic decryption scheme and the application of homomorphic encryption technology in cloud computing privacy protection. The advantages and disadvantages of homomorphic encryption schemes are introduced and analyzed, and the future research directions are put forward.

Keywords:--
Cloud service, Homomorphic Decryption,Cipher-text computation, Privacy security

An Experimental Study on Treatment of Dairy Waste Water Using Microbial Fuel Cell

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Abstract:--

The energy need will be increased day by day in next 20 years and especially cleanly- generated electricity. The adverse effect caused by fossil fuels resulted in severe environmental impacts. In this scenario, renewable energy technologies are emerging as a major alternative to provide long term sustainable and environmental friendly energy source. At the same time pollution also become very serious problem. We are disposing many wastes without any treatment. So, if we convert waste into the energy then it will solve the two problems and also we need to develop the ecofriendly methods for the disposal of this high strength wastewater. A microbial fuel cell (MFC) is an emerging technology. It is a bioreactor that converts chemical energy in the chemical bonds in organic compounds to electrical energy through catalytic reactions of microorganisms under anaerobic conditions. Due to catalytic reaction COD of effluent is reduced. In this project, the electrode optimization is mainly considered to attain the maximum efficiency regarding the electrode and to find the maximum efficient electrode. Graphite plate is used as an electrode in this BFS. Using the waste water for the production of electricity is an economical and sustainable one.

Keywords:--

COD, Reactor, Electrode, Efficiency.

Efficient and Expressive Keyword Search over Encrypted Data in the Cloud

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Abstract:--

In today's world there are many new challenges for security of data and access control when users outsource sensitive data for sharing on third party server known as cloud servers, which are not within the same trusted domain as data owners. The existing technique used to maintain confidentiality of personal medical record (PMR) against untrusted servers by disclosing data decryption keys only to authorized users. However, in doing so, these solutions inevitably introduce complexity in key management also burden on the data owner in data management well as in key management. The problem of simultaneously achieving security and data confidentiality and finegrainedness of access control still remains unresolved. This paper addresses this challenge 1) Key management, 2) Defining and enforcing access policies based on data attributes, and, 3) Keyword search over the encrypted data. PMR(patient medical record)system users need to deal with complicated key management problem to accomplish fine-grained access control when their PMRs are encrypted using symmetric key cryptography or asymmetric key cryptography .With our scheme multi-authority attribute based access control (MAABAC) we can reduce the key management complexity for owners and users. For this users are divided into the two domains; professional domain and personal domain. To achieve security of PMR, key management, user revocation and efficient keyword search exploiting KP-ABE, Multi-authority attribute based access control(MA-ABAC), and uniquely combining it with techniques of proxy reencryption.

Keywords ::--

Attribute based encryption, Cloud computing, Fine-grained access control, KP-ABE, MA-ABAC, User Revocation, Proxy Re-encryption

Process Development of micro-hole by Pulsed Laser

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Abstract:--

Laser drilling is a popular non-traditional machining process for production of large numbers of cooling holes of various sizes (<1mm) and angles in modern aerospace gas turbine components such as turbine blades, nozzle guide vanes, combustion chambers and after burners. The rate of production of micro-hole (i.e. productivity) is very high but the quality of hole (such as straightness, circularity and HAZ etc.) is very poor due to unique nature of the process. In the present study first a set of experiments have been conducted using Taguchi's L9 orthogonal arrays on a medium carbon steel specimen. Subsequently different quality parameters (i.e circularity, HAZ ,aspect ratio and spatter deposition)of the micro-hole were measured through SEM.

Key words:--

Pulsed Laser, hole quality, Taguchi method, Process Parameter, SEM analysis.

GREEN CoMP: Cooperation Techniques in Lte- A Networks for Improving Energy Efficiency

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Abstract:--

To save an Energy Efficiency in Long Term Evolution-Advanced (LTE-A) networks the effective and adequate solution is to introduce cooperation techniques. In these techniques the performance of throughput and coverage can be improved naturally. However the possibility of improving energy efficiency is an open issue. The transmission power and constant power are the crucial sources of energy consumptions in evolved node B (eNB). For a single individual eNB, the transmission power is reduced with cooperation between two or more eNBs. The context comes primarily from how to jointly consider the backhaul traffic and which eNBs to switch off to cooperate among the active mode eNBs. In this work, the design of energy-aware cooperation methods that provide that LTE-A network is energy saving while satisfying user demands. Earlier work mainly focus on the pure power control mechanisms that do not consider the transmission power and pure cooperation without power control in terms of the total consumed energy. With the objective the work starts with the pure cooperation with power control, Green CoMP, light CoMP and heavy CoMP with backhaul traffic are the different energy savings methods to improve energy efficiency in LTE-A networks and we proved that smaller cooperative size imply a better strategy under different scenarios.

Ker Words:--

CoMP, energy efficiency, evolved node B, LTE-A

Comparing Two Methods of Determining Infiltration Rates for Different Types of Soil Samples

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Abstract:--

This paper presents result of a study carried in Guwahati, aimed to compare the rate of infiltration determined for the different types of soil samples collected from different location by using numerical model and physical model. The Green-Ampt (GA) model is widely used in hydrologic studies as a simple, physically-based method to estimate infiltration process. In this study GA model is used to estimate rate of infiltration for the soil samples. Physical model designed for measuring rate of infiltration of simulated rainfall for the soil samples. A potable rainfall simulator is constructed in the laboratory as a physical model to measure the rate of infiltration. The estimated infiltration rate helps in designing of irrigation systems, in determination of availability of water for plant, runoff, percolation and for accurate determination of surface runoff. The results of both the models are compared and discussed and the useful conclusions are drawn.

Keywords :-

Green-Ampt model, Infiltrometer, Infiltration rate, Rainfall simulator.

Cloud Information Measure and Value Reduction by Prediction Based Theme

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Abstract:--

Cloud computing is a quick growing field that is arguably a brand new computing paradigm. In cloud computing, computing resources square measure provided as services over the web and users will access resources on supported their payments. But for server specific TRE approach it's tough to handle the traffic efficiently and it doesn't suites for the cloud setting due to high process prices. During this paper we provide a survey on the new traffic redundancy technique called novel-TRE conjointly called receiver based TRE. This novel-TRE has important options like detective work the redundancy at the customer, randomly rotating appear chained, matches incoming chunks with a antecedently received chunk chain or native file and sending to the server for predicting the long run information and no would like of server to unceasingly maintain consumer state.

Keywords:--

Cloud Computing, Chunking, TRE, Novel-TRE, Computing Paradigm.

Reliable Prediction for Detection of Heart Attack among People Using Twitter

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Abstract:--

Social Media is a powerful tool to gather public personal information through online. It acts as a mediator between patients and general people to communicate and share thoughts. The survey results that in South India nearly around 1.6 million are suffering from heart disease which leads to death. Data is taken from the twitter and prediction for detection of heart attack is obtained by logistic regression to create general awareness in public.

Keywords:--

Prediction, twitter, regression, awareness, social media, heart attack, diabetics, blood pressure.

Investigation on different blends of Jojoba oil with coir pith generated producer gas in diesel engine in dual fuel mode

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Abstract:--

The present paper elaborates about the experiment carried out on a single cylinder diesel engine utilizing jojoba oil methyl ester and coir pith generated producer gas in dual fuel mode. Various experiments conducted to measure the physiochemical properties of both biodiesel and producer gas. Simultaneously, emission analysis was calculated at different loading conditions with various diesel blends. The results were contrasted with data laid down by various researchers. Result depicted that carbon dioxide (CO_2) and carbon monoxide (CO) shows marginal hike, while nitric oxide (NO) and hydrocarbon (HC) shows a reducing curve, for all prepared test fuels in dual operation that of single operating mode under different loading conditions. The fuel blends show better emissions than that of diesel in both the ways.

Keywords:--

Dual fuel; biodiesel; emission; fossil diesel; single cylinder engine.

Reinforced Cement Concrete Bridge Deck Design of a Flyover with Analysis for Dynamic Response Due To Moving Loads for Urban Development in Transportation Systems - A Case Study

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Mohd. Husssain., Professor, Dept. of Civil

Abstract:--

The present study on Practices in civil engineering for sustainable community development to meet four out of total eight Millennium Development Goals of United Nations have been taken up to improve the quality of life of Global Community by creating awareness in all concerned. This study is also relevant during the United Nations Decade of sustainable development. The four goals related to Civil Engineering are effective irrigation water management, providing safe drinking water, ensuring environmental sustainability and sustainable transportation system. As an inspiration of these goals, this paper is on the study of Reinforced Cement Concrete bridge deck design and its dynamic response for urban development in transport systems.

A Reinforced Cement Concrete bridge deck is designed using the Indian Roads Congress (IRC) Bridge Code: IRC 21-1987. The bridge deck is designed for IRC Class AA loading tracked vehicle. The design curves by M. Pigeaud, are used to get Moment Coefficients in two directions for the deck slab. The longitudinal girders are designed by Courbon's method. The dynamic response of bridge deck for moving loads is analyzed as per British Standard Code of Practice BSCP-117 Part-II – 1967. This is based on Lenzen's criteria relating the Natural Frequency and Vibration Amplitude. A computer program in C language is developed to design interior slab panels of Reinforced concrete bridge deck to arrive at the reinforcements and depths for a specified length of width of slab panel and thickness of wearing coat with Grade of concrete M-25 and Grade of steel Fe-415 High Yield Strength Deformed (HYSD) bars. The possible Global Partnership for overall development with universities, consulting organizations, government organizations and nongovernmental organizations is also to be discussed

Keywords: -

Courbon's method, Dynamic response, Pigeaud curves, Reinforced Cement Concrete bridge deck.

Shadow detection and removal from satellite capture images using successive thresholding algorithm

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Ms. Komal Naikwadi, ME student (Dept. of CSE), TPCT's COE Osmanabad

Abstract:--

In accordance with the characteristics of urban high-resolution color remote sensing images, we put forward an object shadow detection and removal method. In this method, during image segmentation, shadow features are taken into consideration and after that using statistical feature of the images, suspected shadows are extracted. According to object properties and spatial relationship between objects, some dark objects could be ruled out. In our method, first color image is transform to gray image, after that global thresholding process is performed to detect the shadow region. Next to that morphology erosion and convolution filtering process performed to eliminate or reduce the noise and edge detection to finally construct coarse-shadow map, to classify the input color image into the candidate shadow pixels and the non-shadow pixels. In shadow removal, adaptive histogram equalization, image adjustment method use to contrast enhancement. After that patch in painting performed to complete shadow remove. After patch in painting finally we get recovered image. Experiments show that our new method can accurately detect shadows and removal from urban remote sensing images.

Keywords:--

shadow detection, histogram matching, Shadow segmentation, Shadow compensation, HSV color space. RGB color model

Re-use based on Shadow Attack Password: Quantitative experience analysis

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Abstract:--

With the proliferation of websites, the security level of password-protected accounts is no longer purely determined by individual ones. Users may register multiple accounts on the same site or across multiple sites, and these passwords from the same users are likely to be the same or similar. As a result, an adversary can compromise the account of a user on a web forum, and then guess the accounts of the same user in sensitive accounts, e.g., online banking services, whose accounts could have the same or even stronger passwords. We name this attack as the shadow attack on passwords. To understand the situation, we examined the state of- the-art Intra-Site Password Reuses (ISPR) and Cross-Site Password Reuses (CSPR) based on the leaked passwords from the biggest Internet user group. With a collection of about 70 million real-world web passwords across four large websites in China, we obtained around 4.6 million distinct users who have multiple accounts on the same site or across different sites. We found that for the users with multiple accounts in a single website reused their passwords and for the users with multiple accounts on multiple websites reused their passwords across websites. For the users that have multiple accounts but different passwords, the set of passwords of the same user exhibits patterns that can help password guessing: a leaked weak password reveals partial information of a strong one, which degrades the strength of the strong one. Given the aforementioned findings, we conducted an experiment and achieved an improvement of guessing success rate with John the Ripper guessing tool. To the best of our knowledge, we are the first to provide a large-scale, empirical, and quantitative measurement of web password reuses, especially ISPR, and shed light on the severity of such threat in the real world.

A Study on: Software Recevier for Gps Signal

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Dr. P C Srikanth., Professor, Dept. of ECE, Malnad college of Engineering, Hassan, Indian.

Abstract:--

Today Navigation depends on the Satellite Navigation Systems which covers the entire globe there are so many Global Navigation Satellite System (GNSS), United states has GPS, Russia has GLONASS, European has Galileo, China uses Bei-Dou navigation System, and India uses IRNSS. In this paper we would like to discuss Universal receiver which support different satellite Navigation system here signal from the satellite are RF signal convert to digital and further processing will be done in digital domain which permits the a true software receiver for a navigation satellite system.

Keywords:--

GNSS, GPS, GLONASS, IRNSS

An Experimental Investigation on Properties of Concrete with Manufactured Sand and With Supplementary Cementituous Material.

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Abstract:--

Traditionally we are using natural river sand to form a concrete and it constitute 75% of a total volume. Shortfall of river sand in today's scenario has appealed many researchers worldwide to find an alternative. Moreover, quarrying of river sand will impact on the environmental issues, bank slides, loss of vegetable on the river banks and it may also impact aquatic life. Considering fine aggregate is very vital component in concrete, it necessary to develop an alternative material while will be sustainable and long term. River sand as fine aggregates of concrete may not be economically feasible solution. However, it is predicted by many researchers it may have harmful impact on the environment view of this, the experimental investigation was performed to evaluate the grading and strength properties of M30 grade of concrete mixes, in which natural sand was incrementally replaced with manufactured sand, And 20 % cement with fly ash. The properties of river sand and manufactured sand such as specific gravity, sieve analysis, fineness modulus and water absorption were determined through test as per IS 383-1970 and compared. Specimens were cast to compare the near surface properties like water absorption, soraptivity and strength properties of concrete with river sand and manufactured sand as fine aggregate. Specimens for compressive strength, tensile strength and flexural strength, shear strength, impact strength were casted and tested up to failure to evaluate the strength properties of concrete at the age of 28 days. Test results showed that the grading of manufactured sand fall in the Zone II gradation as per the specifications provided in IS 383-1970. Test results showed that there is only a marginal increase in compressive strength, splitting tensile strength and flexural strength, shear strength, impact strength, for M30 concrete mixes on ages of 28 days in comparison to the river sand concrete. These studies reveal that the test results are in conformation with the river sand concrete and hence manufactured sand can be used as fine aggregate in concrete.

Index Terms:--

Fly ash , manufactured sand ,Natural sand .

A new Design and Control of a Two-Wheel Self-Balancing Robot using the Arduino Microcontroller

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Reshma., Student, Balaji Institute of Technology and Science, Warangal, Telangana.
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Ch Swetha., Student, Balaji Institute of Technology and Science, Warangal, Telangana.

Abstract:--

In the last decade, the open source community has expanded to make it possible for people to build complex products at home. [1] In this thesis a twowheeled self-balancing robot has been designed. These types of robots can be based on the physical problem of an inverted pendulum [2].Inthis paper we can see the design, construction and control of a two-wheel self-balancing robot. This system consists ofa pair of DC motor and an Arduino UNO R3 microcontroller board, make a robot which can balance itself on two wheels the platform will not remain stable itself. Our job will be to balance the platform using distance sensors and to maintain it horizontal. At first we have decided to just balance the robot on its two wheels.

Keywords :—

Robot, Arduino, AT mega 328, Control Systems, PID controller, Linear Quadratic Regulator.

Experimental Investigation of Performance Characteristics on a Single Cylinder C.I Engine Fueled with Simarouba glauca as Bio Diesel

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Jagadish.H., Assistant Professor, Mechanical Department, HITAM, Hyderabad

Abstract:--

In the recent years there has been a drastic increase in the automobile production all over the world as a result of increasing dependence on transportation mediums. Whatever might be the medium of transportation, it all needs energy and most of them depend on the petroleum products as fuels. Technically speaking Alternative fuel is nothing but any material other than fossil fuels, coal and its by-products or anything from earth crust that could be used as a fuel to power a vehicle. Bio-diesel can be extracted from different raw materials like vegetable oil, biomass, algae, milk scum etc. In which Simarouba glauca is one the promissing among them. This is being considered as they are cheap, renewable and are less polluting.

Keywords:--

C.I Engine, bio diesel, Simarouba.

Investigation on Emission characteristics of a Twin Cylinder Diesel Engine using Jatropha oil methyl ester with Di-Methyl Carbonate

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Swarup Kumar Nayak., School of Mechanical Engineering, KIIT University, Bhubaneswar - 751024, Odisha, India
Sohail Akhtar., School of Mechanical Engineering, KIIT University, Bhubaneswar - 751024, Odisha, India
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Abstract:--

A remarkable growth is observed in the automobile as well as industrial sectors and accordingly the requirement for the fossil fuels is also increasing. As a result, the amount of fossil fuels available is decreasing drastically. It is well know that modern world depends mostly on energy produced from different energy sources, because of their various uses. Most of the energy sources are fossil fuels which are getting exhausted. Therefore, many scientists from different parts of the globe are carrying out research to find an alternative source in order to replace the existing one. Biodiesel can replace the present energy crisis and further help in reducing global warming. It is mainly produced from edible and non-edible oils. Non-edible oils when blended with diesel give rise to biofuels which have exhibited a remarkable growth in the automobile industries because of their environment friendly and lubricating nature. The present paper elaborates about the emission characteristics of an agricultural diesel engine utilizing jatropha oil methyl ester with diesel blends (B10, B20 and B30). All the emission values were noted and plotted in the graph against loads varying at 0%, 20%, 40%, 60%, 80%, 100%. The results depict that BD20 is the blend which shows the less tendency towards emissions like CO, CO2, HC, while there is a slight increment in both NOx and smoke emission in comparison to other test fuel blends which gives a conclusion that B20 is a best alternative fuel capable of replacing current petroleum diesel fuels to reduce the engine emissions.

Identifier Model for Ranking Fraud Recognition System

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Abstract:--

Inside the literature works since there are some related studies, like web ranking junk e-mail recognition, recognition of internet review junk e-mail additionally to mobile application recommendation, impracticality of recognition of ranking fraud for mobile programs remains under-investigated. For achieving from the crucial void, we advise to build up a ranking fraud recognition system intended for mobile programs. We submit an all-natural vision of ranking fraud while increasing your ranking fraud recognition system intended for mobile programs. It's extended by means of other domain created particulars for ranking fraud recognition. Inside the recommended system of ranking fraud recognition system for mobile programs, it's worth watching the whole evidences are acquired by means of modelling of programs ranking, rating and review behaviours completely through record ideas tests.

Keywords:--

Ranking fraud detection, Mobile applications, Spam detection, Applications ranking, Review behaviours.

On-chip Pentagonal Fractal Inductor for THz frequency applications

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Abstract:--

On-chip pentagonal fractal inductor with high inductance for terahertz (THz) frequency applications is presented in this paper. The frequency range of operation of proposed fractal inductor is in the sub-terahertz (sub-THz) band with self-resonant frequency of 335 GHz. The pentagonal fractal inductor is developed on silicon and SiO2, with copper as metal layer. Performance of fractal inductor is compared with planar inductor, fractal inductor shows better performance in terms of quality factor and moderate performance in terms of inductance(pH). On-chip area of the proposed inductor is 100µm×100µm. The simulation results using an electromagnetic simulator showed good agreement with the analysis.

The Energy Efficient of Routing Protocol in Mobility Models Using Manet

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Abstract:--

A MANET is a collection of wireless mobile hosts forming a temporary network if any centralized administration. The design of these routing protocol, is challenging due to the mobility and the dynamic nature of the MANET. The networks can communicate with each other using multi-hop links. Each node acts as a router for forwarding and receiving packets. In this paper, the performance analysis is carried out on AODV, OLSR and DSDV protocols using NS2 simulator. The optical routing protocols are packets and its normally consider at distance vector protocols and link state routing protocols. Ad-hoc routing protocols are divided into flat and NPDU (Network Protocol Data Unit). All nodes are capable for movements can be dynamically random waves. The performance of Normalized Control Overhead, Data Delivery Ratio and Average Consumption Ratio are the common measures are used in this performance in ns2 tools.

Keywords:--

Mobile Adhoc Network, Mobility Models, NS2(Simulator), NPDU, Controlized Overhead.

Study on Hardened and Fracture Energy Properties of Recycled Aggregate Concrete under Varying w/c Ratios

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Abstract:--

The purpose of the research is to assess the effect of fusion of recycled aggregates obtained from the already constructed buildings on the hardened and fracture energy properties under various notch depths. The effects of such incorporation such as compressive strength of cubes, split tensile strength of cylinders and fracture energy of beams with notches of varying depths were analysed. In this study fracture energy of recycled aggregate concrete beams of size 700mmx150mmx150mm were used. Notches of size 7.5mm, 15mm, 45mm and 75mm were done to study the crack mouth opening displacement (CMOD). A clip gauge of + 4mm range over a gauge length of 25mm was fixed across the notch at the bottom face of the beam to measure the crack opening displacement (CMOD). Linear varying differential transformer (LVDT) of two numbers was used to determine the deflection of the specimens. Specimens of two water/cement ratios 0.5 and 0.45 were casted to study the fracture energy and the results were compared. Fracture parameters such as unstable fracture toughness were predicted using empirical relations. Single point loading is given to the specimen and fracture energy was studied. Hardened Concrete tests was carried for both water cement ratios 0.45 and 0.5 and the strength behaviour of the recycled aggregate was studied. Hardened property of concrete shows poor performance due to bonding property of recycled aggregate concrete. Henceforth research elaborated over fracture energy properties. Studies also elucidates fracture energy dissipation increases with increase in notch depth.

Keywords:--

Fracture energy, recycled aggregate, LVDT, CMOD, Notch Depth and Hardened property.

Apply of Hydro Forming for Futuristic Manufacturing

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Abstract:--

A hydrofoil is a foil which operates in water. As a hydrofoil-equipped watercraft increases in speed, the hydrofoil elements below the hull(s) develop enough lift to raise the hull up and out of the water. This results in a great reduction in hull drag, and a further corresponding increase in speed and efficiency in operation in terms of fuel consumption.

The foil is shaped to move smoothly through the water causing the flow to be deflected downward which according to Newton's Third Law of Motion exerts an upward force on the foil. This turning of the water causes higher pressure on the bottom and reduced pressure on the top of the foil. This pressure difference is accompanied by a velocity difference, via Bernoulli's principle, so the resulting flow field about the foil has a higher average velocity on one side than the other.

A study of Wireless Sensor Network Data Acquisition

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Abstract:--

Wireless sensor network (WSN) data acquisition has the unparalleled advantage of other networks due to its self-organizing network structure. However, its limited resourcesMany key problems have not been solved well. This paper summarizes the key technologies and the main challenges in WSN data acquisition, WSN network protocol and its main performance indicators, and several current technologies and the combination of WSN were analyzed and discussed, and finally the wireless transmissionthe future research on key technologies of sensor network data acquisition is prospected.

Keywords:--

Wireless Sensor Networks; Overview; Data Acquisition; MIMO

Monitoring Resources in Smart Cities based on Internet of Things

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Aparna Dayyala., Balaji Institute of Technology and science, Computer Science & Engineering.

Abstract:--

Modern cities today are vying for denizens, tourists, investors, funding from the regime, among others, and a city which is better connected and is astute, has the maximum chance of acquiring victory. Verbalizing about connected cities, IoT is the key enabler—CCTV, traffic signals, parking meters and public conveyance, roll your ocular perceivers and there are plenty of microchip embedded contrivances connected to Internet of Things (IoT). IoT visually perceives a staggering development owing to the immensely colossal advantages and adoption rates it pose.

Index terms:--

Internet of things, Smart cities, Waste Management

Smart farming with Auto protection system

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Annapareddy V N Reddy., Assistant Professor, Computer Science, Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad, India.

Abstract:--

One modest attempt is to provide some relief to the farming community which was exposed to lot of natural calamities and digital deprive. This one stock solution provides, protection to electrical appliances against stromes and thunders, optimal water management as per crop needs, and it also ensure the optimal and effective usage of power.

Key words:--

Natural calamities, digital deprive, electrical appliances, stromes , thunders, optimal water management, per crop needs.

Effects of Chromium on Hardness and Tribological Behavior of Spinodal Cu-Ni-Cr Alloys

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Abstract:--

The influence of Chromium on hardness and tribological behavior (wear rate and coefficient of friction) of spinodal Cu-Ni-Cr alloys was investigated. Heat treatment of commercially important Cu-28.9%Ni-2.8%Cr carried out which includes Homogenization, Solution heat treatment and aging respectively to produce spinodal structure. In early and later stages of aging, characteristic spinodal composition waves can be detected. After the heat treatment specimen were tested for hardness, wear rate and the coefficient of friction. It was observed that with the increase in Cr content hardness also increased so the decrease in wear rate with great extent.

Index Term:--

Cu-Ni-Cr spinodal alloy, Heat treatment, Wear rate, Coefficient of friction

Antioxidant and antibacterial properties of benzimidazoles and its copper complex

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Abstract:--

Benzimidazoles are a group of heterocyclic, aromatic and bioactive organic compound which exhibit a wide range of biological properties and used as pharmaceutical target. Benzamidazole derivatives are structural isomers of naturally occurring neucleotides, which allow them to interact freely with biopolymers of living systems. In the present study, the evaluation the antioxidant effect of 1,3, bis (benzimidazolyl) benzene and its copper complex by DPPH method along with inhibitory effect of these compounds on gram-positive bacteria such as Staphylococcus aureus, Strptococus mutans and Enterococcus faecalis, more frequently found in dental caries, which is one of the most prevalent chronic diseases of the world wide was carried out by Micro titer plate Resazurin method. According to the result, The percentage of inhibition at 200-1000µg/ml concentration of 1,3, benzimidazole and its Cu 2+ complex were compared with the standards catechol (phenol), whereas, the tested compounds were found to have less antioxidant activity compare to standard which ranged from 34.06 to 92.0% in different concentrations. The studied compounds showed an effective antibacterial activity against all three bacterial strains. Highest activity was observed against Streptococcus mutans from both the compounds studied and lowest activity was observed against Enterococcus faecalis.

Key words: --

Benzimidazoles, Copper complex, DPPH, Resazurin, Antioxidant, Antibacterial

Data Mining Techniques for Online Communities

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Abstract:--

Data mining techniques can be applied to any type of old or new data, each of which can be best dealt with using specific technologies (not requiring all of them).In other words, data mining techniques are limited by data types, data set sizes, and task application environments.Each data set has its own suitable data mining solution. Data mining practitioners often face problems of the unavailability of all training data at the same time and the inability to process a large amount of data due to constraints such as lack of adequate system memory. Once older data mining techniques cannot be applied to new data types or if new data types cannot be converted to traditional data types, new data mining techniques will always need to be explored.The most popular and most basic form of data from the database, data warehouse, orderly data or sequence data, graphics data and text data.In other words, they are joint data, high-dimensional data, longitudinal data, streaming data, web data, numerical data, categorical data, or textual data.

Key Words:--

Abstractive summary, extractive summary, Keyword Extraction, Natural language processing, Text Summarization.

Jatropha Oil as a Potential Fuel for C.I. Engines

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Abstract:--

Energy is the main input in technological, socio-economical, and industrial development of any country. Petroleum derived Fuels are major source of energy throughout the world. However, these fuels are not only limited but also pollute the environment. In India, the diesel fuel is extensively used in transportation, agriculture, and industrial sector and the consumption of diesel is four to five times than of gasoline. However, diesel engines are main contributor of environmental degradation. Due to growing awareness about climate change and depletion of fossil origin fuels, exhaustive research is carried all around the globe to evaluate the suitability of variety of alternative fuels. Biodiesel, which is carried all around the globe to evaluate the suitability of variety of alternative fuels. Biodiesel, which is produced from variety of vegetable oils and animal fat through transesterification, has a lot technical advantages over fossil fuels such as lower overall exhaust emission and toxicity, biodegradability, derivation from renewable and domestic feedstock, negligible sulfur content.

Biodiesel has comparable energy density, cetane number, heat of vaporization and stoichiometric air-fuel ratio with that of the diesel fuel. Non-edible oil derived from Kusum (Schleichera Oleosa), an oil bearing plant, is a potential feedstock for biodiesel production. In the present study, various physio-chemical parameters of the kusum oil have been studied to evaluate its suitability as a potential feedstock for biodiesel production. The fatty acids are 40% whereas saturated fatty acids are around 53%. In the light of exhaustive study, it can be that kusum oil is a promising feedstock for biodiesel production for use as a fuel to improve its commercial viability.

Keywords:--

Transesterification; Non-Edible Oil; Diesel Engine; Kusum Oil; Biodiesel; Alternative Fuel

Emission characteristics of a four stroke single cylinder diesel engine fueled with used waste cooking oil and diesel blends

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Abstract:--

This paper emphasize on the production of methyl ester from waste cooking oil and application of this on four stroke single cylinder diesel engine to investigate its performance and emission characteristics. Keeping in mind about the current global energy crisis, global warming and adverse effect on human health due to the emission hazards emitted from the petro diesel vehicles. Therefore global interest is generated to find out a substitute to the current pilot fuel. Biodiesel has attracted interest in recent times due to its oxidation characteristics and environmental benefits. Biodiesel obtained from straight vegetable oil through a process known as base catalyze transestrification process. In this process the reversible reaction between the triglyceride of vegetable oil and methanol in presence of base catalyst (KOH) to produce glycerol and methyl ester. The methyl ester produced in this process is then blended with biodiesel in various proportions before use in a diesel engine. The experimental investigation on the engine performance shows that the Brake power, Brake thermal efficiency and exhaust gas temperature gradually increases with increase in loads. Similarly the emission analysis with the above test fuels shows that Carbon monoxide, Carbon dioxide and Hydro carbons increase with increases in load for all test fuels including the pilot fuel and Oxides of nitrogen emission increases with load and is highest for pure biodiesel. From the above experimental results we may conclude that waste cooking methyl ester can successfully be used in a diesel engine without much engine modifications and degrading the engine performance and emissions.

Keywords: --

Waste cooking oil; Biodiesel; Diesel; Transesterification; Performance; Emission

Study of Compressive Strength of Concrete Using Zinc Borat Nano-Oxide

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Abstract:--

In this research, nano zinc borate has been used to investigate the compressive strength of concrete. 40 concrete cubes with dimensions 15 Cm with percentages 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5 and 5 of nano zinc borate was combined and the compressive strength of concrete nanocomposite samples was investigated at the age of 7 and 28 days. Based on our results, all samples were encountered by a sharp decrease in compressive strength using different percentages, so samples containing 0.5% of zinc borate nanoparticles were encountered by a decrease of 11.67% compressive strength in 7-day, and a reduction of 5.1% in compressive strength of 28-day were observed. This sharp drop in compressive strength is due to the presence of borate and its reaction with water that led to the formation of boric acid. This phenomenon is the reason for this result. It is suggested that in research projects or commercial construction of concrete, all materials that produce this acid, such as borate, should be avoided.

Synthesis and biological evaluation of newly synthesized Flavones

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Abstract:--

Flavones are bioactive substances, essential for human growth and development. It is naturally available in cereals and herbs. It is synthesized in excellent yield by Baker-Venkataraman reaction for formation of 1,3-diketone by using substituted acetophenone and benzoyl chloride in presence of dry pyridine. The structures of newly synthesized compounds have been confirmed on the basis of elemental analysis, UV, IR, ^{1}H-NMR spectral data and evaluated for biocidal activity on the basis of inhibition of growth of bacteria and fungus compared with standard drug.

Keywords:--

4-chlorophenol, flavones, conventional method, Biocidal activity.

Comparative study of DC-DC converter topologies for fuel cells

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Abstract:--

Convertors and fuel cell technologies play an important role in the field of renewable energy. Fuel cells have become one of the main sources of power for portable applications and stand alone applications like telecommunications. High-efficiency converter is an essential requirement in fuel cell systems. The selection of an appropriate converter topology is an important part of designing fuel cell systems as the converter plays a major role in determining the overall performance of the system. This paper presents a review of the comparative study of different topologies of DC-DC convertors used in fuel cell systems, which include various topology combinations of DC converters and AC inverters and which are primarily used in fuel cell systems for portable or stand-alone applications. This paper also reviews the switching techniques used in power conditioning for fuel cell systems. This paper mainly discusses the current problem faced with DC converters and AC inverter.

KeyWords:--

Switching elements- inductor, diode, and capacitor. Single-stage topologies, Multistage Topologies, DC/DC convertor PWM, Resonant, ZVSs & ZCSs.

Functional Instructions with Braille pictograms using Morphological Analysis for Sightless Children's Picture Books

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Abstract:--

This paper discusses the use of typography and existing braille script both to tell a story. The research project is based on the teaching multisensory learning through the use of technology existing in the market and considered as and supplementary educational relief in the form of braille story book. Play is a necessary element in children life, which is initiated by inbuilt inquisitiveness. Learning will be painless when it's executed through play. The cognitive development is very effective in natural learning. This varied cognitive development follows the cyclic pattern which is defined through Learn, Explore, Experiment and Contribute (LEEC). [7,2] Nature uses unstructured methodology to address curiosity and initiates play. At the end of the play, children learn about themselves and others. Nature addresses this cyclic pattern through its Natural Resources. However the recent concern from the researches pinpoints the lack of interaction between children and Natural Resources. [3] Through the structured methodology these Natural Resources can be replicated in the form of picture book to bridge the gap. In this paper, Morphological Analysis (MA) is used to map the available Natural Resources in the form of dimensions and its options. While traditional books are created with linear storytelling can allow us to explore the page spatially, leading to new connections between reader and the book.

Keywords:-

Braille, Morphological Analysis, Natural learn and play, Ongoing exploration design.

Face Recognition using Multiple Kernel Learning

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Abstract:--

Face recognition is an important and very challenging technique. Performance of a face recognition system is determined by extracting feature vector and classifying them into a group accurately. It is necessary to closely look at the feature extractor and classifier. In this paper, Principle Component Analysis is used for feature extraction and multiple kernel learning is used for classification. Results are tested on ORL database and FERET database using support vector machine and multiple kernel learning. It is found that results are improved significantly using multiple kernel learning than using a single kernel. Polynomial, Gaussian, Wavelet and Radial basis kernels are used for multiple kernel learning.

Key Words:--

Multiple kernel learning, principal component analysis, face recognition, support vector machine.

Forecasting Techniques for Time Series Financial Data

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Abstract:--

This paper focuses on Time Series forecasting techniques to financial time series with autoregressive integrated moving average (ARIMA) and Seasonal and Trend decomposition using Loess(STL) that estimates nonlinear relationships. The data used are historical currency exchange rates of INR/USD, INR/GBP, INR/EURO and INR/YEN from May 2005 to July 2014 provided by Reserve Bank of India. First we show the Multivariate Analysis and then perform the forecasting on individual currency. Various plots are used for visualization.

Keywords: -

Exchange rate, Time series analysis, forecasting models

Factors affecting anaerobic digestion of organic waste

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Abstract:--

This paper gives us an idea on the parameters affecting the anaerobic digestion of food waste on environment. This will implant seeds of enhanced perception on how biogas can be generated from an inevitable type of waste produced across all cities. Biomass includes organic as well as inorganic waste which may consist of leftovers, kitchen(cooking) waste ,cattle feed ,industrial waste, slaughter house waste, mediwaste etc. Due to the high organic content of food waste, and animal manure anaerobic digestion plays a key role as the micro-organisms act as a catalyst in breaking down the complex organic molecules into biodegradable components in the absence of oxygen. The gas is further processed to generate electricity and it is also used as transportation fuel. This paper summarizes all the important factors that are to be considered for the efficient digestion of the waste like the optimum PH range catalyst required and temperature. Important points like loading rate, retention time and also composition of the waste material is also taken into consideration.

Keywords:-

Anaerobic digestion (AD), Biogas, Methane, Organic waste

A Survey on Smart Cities using IoT

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Abstract:--

The city of today and tomorrow is an intelligent city, synchronized, and able to optimize information, its flows and its energies. Smart city refers to using information and communication technology to sense, analyze and integrate the key information of urban operation core system so as to make various demands including livelihood, environmental protection, public security, urban services and industrial and commercial activities Smart response. Its essence is to make use of advanced information technology to realize the city's smart management and operation so as to create a better life for people in the city and promote the harmonious and sustainable growth of the city.With the continuous development of human society, the future city will host an increasingly large population. At present, our country is in a period of accelerating urbanization. The problem of "urban disease" in some areas is becoming more and more serious. In order to solve the difficult problem of urban development and realize the sustainable development of the city, building a smart city has become an irreversible historical trend in urban development in the world today.

Keywords:--

IOT, smart cities, Sensors.

Technology and English Teachers

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Abstract:--

Today's multimedia work stations have astonishing storage capacity, self-life and extremely fast access time. It provides an excellent medium for multi- media applications, allowing for the efficient transport and combination of images, sound video and text. Significant advances in the area of multimedia network and authoring technology have dramatically enriched and simplified the operations of language learning. One reason for making this choice is a great amount of exercise and drill work involved in learning language skills, the greatest part of which requires close supervision and frequent correction for best results in learning. Another reason is that some of the kinds of remediation required seemed to be especially feasible to machine embodiment.

The teaching of English demands drastic change in the pedagogy. In this age of Information Technology and computers, teaching of English can not be carried out effectively in the traditional fashion. The whole process of teaching and learning English needs the immediate intervention of technology. The teachers of English face unprecedented pressure to get technology especially ICT, get networked enhance the language skills and to get online. It is possible that while implementing technology, we may forget what it is all for. It is important to ascertain that the minimum technology and professional development requirement are reasonably put in place. The use of technology simply makes the aforesaid principles of teaching / learning easier and fun to achieve. Moreover besides recognizing the key skills of speaking ad listening we must emphasize reading and writing in the English classrooms. The technology expands our options to reach. We are not going to stop teaching Shakespeare or literature in general – aim is to do it in a better way. Technology enhances many classroom practices for English learners

Application of Collocation Method Using Nurbs Basis Functions for 1-D Heat Transfer Problems

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Abstract:--

Countless engineering problems are uttered in terms of mathematical models in the form of differential and partial differential equations in the areas such as mechanics, heat transfer, vibration analyses, Fluid flow etc. Numerical methods are required to attain approximate solutions when exact solution is unattainable. Two of the most admired techniques for solving these mathematical models are the Finite Element Method and the Finite Difference Method. In the recent years Spline, B-spline and NURBS basis functions together with some numerical techniques have been used in getting the numerical solution of the differential equations .One of such methods is NURBS based Collocation Method. A collocation method involves satisfying a differential equation at a finite number of points, called collocation points. The NURBS Collocation Method has a few separate advantages over the other Finite Element and Finite Difference Methods. The advantage over Finite Difference Method is that the NURBS Collocation Method provides a piecewise-continuous, closed form solution. The NURBS Collocation Method route is simpler and easy to apply to many problems involving differential equations.

The present work involves in the use the NURBS basis functions, with varying degree, as the basis functions in Collocation Method. A comprehensive step-by-step procedure for using NURBS Collocation method is developed and documented for applying this method to heat transfer problems. This method is applied to 1-D conductive Heat Transfer through slab and cylinder. The solution is compared with exact solution. The results obtained with NURBS Collocation Method are closed to exact solution. The solution obtained by Collocation Method is found to be accurate and far simpler to solve than many available approximate Methods.

Performance and analysis of texture synthesis based on Multi Seed-blocks and kernel support vector machine

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Abstract:--

This paper explains a numerous applications, the texture synthesis are mainly based up on multiple seed-blocks and multi kernel support vector machine (MKSVM). In generally the MKSVM is a linear kernel that hybrid the linear kernel and quadratic kernel in order to improvement the efficiency of the synthesis texture. And also this paper explains of four modules such as (i) Pre-processing, (ii) Feature extraction, (iii) Training using MKSVM and (iv) Output pixel synthesis. So At first we should give a sample image to the processing unit. Next we should extract the features from the input preprocessed gray scale image. Now we should train the sample with a class label by using MKSVM model. Finally, in the testing process, the output pixels are synthesized. And also the experimental result shows, our proposed methodology successfully synthesize both random as well as textures.

Keywords: --

Texture synthesis, seed-block, multi kernel, support vector machine, linear kernel and quadratic kernel.

Fuzzy C- Means Algorithm for Clustering

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Abstract:--

Clustering is a method of grouping the objects into clusters. In general the clustering algorithms can be classified into two categories namely hard clustering and soft (fuzzy) clustering. In hard clustering, each data point either belongs to a cluster completely or not. In case of soft clustering techniques, fuzzy sets are used to cluster data, so that each point may belong to two or more clusters with different degrees of membership. Fuzzy C Means (FCM) is a very popular soft clustering technique, and similarly K-means is an important hard clustering technique In this paper we represent a survey on fuzzy c means clustering algorithm. These algorithms have recently been shown to produce good results in a wide variety of real world applications.

Unconstrained Handwritten Document Retrieval Based on User Query Interaction

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Abstract:--

In unconstrained handwritten document retrieval given list of documents, retrieve the documents based on user query keyword and find the similar keyword in relevant document that can be search and retrieved handwritten documents with efficient information. The work involves preprocessing of the input document and segmentation is applied over the document based on contour to segment the individual words. In relevant index stores all information of the words, it contains relevant information of the document, position of the words and class label of each word. In this paper, we proposed unconstrained document retrieval based on user query. After indexing the segmented word images partition into 2×2 subblock, each subblock region again partition into 5×5 subblock. In each subblock to calculate average intensity of pixels and to find the maximum average values in horizontal and vertical direction. There by 40 dimensional features are extracted from 2×2 subblock and extracted features are fed to SVM with RBF kernel to construct the models for all classes. In testing samples, user given the query in search area. The user query keyword randomly selected the corresponding word image in testing samples and to extract the feature for the word. The extracted features are fed for testing to retrieve the appropriate class. The class label is used to retrieve the corresponding index information and retrieve the information from list of document.

Keywords:-

Handwritten Word Retrieval; Word Spotting; Segmentation; Maximum Intensity Vector (MIV); Support Vector Machine.

Indian Market Analysis and Sales Strategy for potential Sports Electric Vehicle Segment

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Abstract:--

The automobile industry today is very lucrative. The purchasing capacity of Indian buyers is increasing and we are witnessing trends of growth in Indian racing market with Formula One Grade Racing tracks being set up and more people showing interest in the sport than before. Global fossil fuel depletion is a growing concern with greenhouse gases on the rise; this will have immediate effects on motorsport as a Hobby and Competitive Racing Industry. With Electric Vehicles forecasted to be 54% of new car sales by 2040, a shift is observed where people are beginning to prefer electric automobiles and in due time this shift can be traced down to automobile racing segment too with the likes of Formula E reaching a wider audience.

The objective here is to discuss the Feasibility of an Electric Vehicle Racing market in India with respect to upcoming Formula Student Electric Racing Teams in India, namely Team Ojas, based in Vellore Institute of Technology (VIT), Vellore. The target market is classified into three segments based on their approach to Electric Vehicles. All Tier 1 and Tier 2 cities are studied to understand the market potential. The electricity generation costs and CO2 emission index are taken into consideration. This paper also discusses the marketing strategies that can be adapted to sell electric racing cars in Indian market with customer-centric and business-centric approaches. The business model under study involves a simultaneous implementation of B2B as well B2C model in detail. Furthermore, the Premium race car segment is analysed where the performance of the Electric Vehicle is compared to other Formula III Combustion Vehicles currently in use.

Keywords:-

Electric Vehicle, Formula Racing, Marketing, Formula Electric, multi-channel model.

FT-IR studies on interactions between Indole and Coumarin

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Abstract:--

The hydrogen bonded complexes formed by indole and coumarin was investigated by varying concentrations. The association constant was calculated from Benesi-Hildebrand equation. Our results show that a 1:1 complex was formed between N-H group of indole and the carbonyl group of coumarin. Free energy change of the 1:1 complex was also determined.

Keywords:--

Indole; Coumarin; Hydrogen bond; Association constants; Free energy change

The leachability of heavy metals from bauxite mine waste thorough batch test

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M. Moshtagh., Master Student Faculty of Engineering, Tarbiat Modares University, Tehran, Iran
S. J. Koleini., Master Student Faculty of Engineering, Tarbiat Modares University, Tehran, Iran

Abstract:--

Pollution caused by tailing dam is one of important mining industry and creates many environmental problems. Among these, heavy metals play a major role in the destruction and degradation of natural habitats and have harmful effects on human health. In first part of this paper, the effective parameters which leach heavy metals from solid waste of bauxite mine have been investigated. The leaching tank test results indicated that among heavy elements vanadium has highest concentration at pH of 2, temperature of 60°C, and residence time of 8 hours and the ratio of solid phase to liquid about 1. When the pH increase from 7 to 13 caused the dissolution time doubled.

Keywords:--

Mine tailing, leachability,Vanadium; Tank leaching; Column leaching; Activated

Investigation on a Twin Cylinder Diesel Engine using Jojoba oil methyl ester with Di-Methyl Carbonate

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Balaka Prashanth., School of Mechanical Engineering, KIIT University, Bhubaneswar - 751024, Odisha, India
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Abstract:--

Due to modernization, increase the number of industries and automobiles sector the consumption of petroleum products has increased which leads to fuel crises. It was estimated consumption of diesel fuels in India was 28.30 million tones, which is 43.2% of the consumption of petroleum products. This requirement was met by importing crude petroleum as well as petroleum products, with the expected growth rate of diesel consumption of more than 14% per annum, for this shrinking crude oil reserves and limited refining capacity, as per the research survey petroleum products may available another 30 to 50 years, it has made us to think and focus on search alternate fuels for diesel fuel. Our main objective for this work is to use and run diesel engine by 100% vegetable fuels and decreases the dependency of fossil fuels. The main objective of this work is investigates the performance and emission characteristics of a twin cylinder diesel engine is fuelled with non-edible vegetable oil such as jatropha jojoba biodiesel with Di-methyl carbonate as an additive and compared with diesel fuel. The experimental setup consists of double cylinder, oil cooled, four stroke constant speed diesel engine. The experimental engine started with diesel fuel and its performance and emission readings are taken and observed at various load condition, later the admission of jojoba oil make the engine run using dimethyl carbonate and conducting the same trail from zero load to full load condition. Based on the performance and emission characteristics of jojoba biodiesel with additive it is concluded that it is a good alternative fuel with closer performance and good emission characteristic to that of diesel. From the results it is concluded that Jojoba biodiesel shows better performance hence the Jojoba oil is best suitable alternatives for diesel.

Keywords:--

Diesel; Jojoba oil; Di-methyl Carbonate; Twin cylinder engine; Performance; Exhaust emissions

Synthesis of unstable performic acid in a continuous flow microreactor

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Abstract:--

Continuous flow synthesis of unstable chemicals in a continuous flow microstructured reactor is one of growing research area. The performic acid has versatile oxidizing properties due to the presence of peroxy group (i.e., excess oxygen (-O-)) so that it is widely used in the various industries like oil, food, chemical industries etc. In this article, synthesis of performic acid in a continuous flow helical capillary microreactor without and with homogeneous catalyst (sulfuric acid) has done. The effect of concentration of hydrogen peroxide and catalyst, radius of curvature of the microreactor and temperature for synthesis of perfomic acid was studied. The equilibrium conversion of formic acid was obtained at flow rate 10 mL/h, 30 oC and 4 mol % catalyst based on formic acid. The maximum performic acid was obtained (5.20 mol /L), when the reaction was carried out in helical capillary microreactor having 13.25 mm radius of curvature where as 3.11 mol/L of performic acid was obtained in 23.25 mm radius of curvature of the helical capillary microreactor at flow rate of 6.6 mL/h (540 s) at 30 oC and 4 mol % catalyst.

Keywords : --

microstructured reactor, continuous flow, synthesis, formic acid, performic acid and homogeneous catalyst.

Seismic Performance of RC Multistoried Buildings Considering Foundation Flexibility

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Abstract:--

Modelling plays a very important role in design and analysis of structures. Generally, the effect of soil is neglected in structural design and the superstructure is considered fixed base. This assumption is true only if the structure is located on rock/hard type soil. In the present study, a typical plan of hospital building with 5, 10 and 20 storey height is considered and is assumed to be located on medium soil condition and seismic zone V. It is observed that with the increase in storey height the foundation type changes from isolated to raft/pile. Linear and nonlinear modeling of the soil-foundation system is carried out along with the superstructure. The fixed and flexible base models are analyzed by using response spectrum analysis method. Non-linear static procedure i.e. static pushover analysis as per ASCE-41 is performed for all the models and their performances are compared. Further, the response reduction factor (R) of considered models is also evaluated. The results show the performance of flexible-base model, considering linear soil-foundation system is in agreement with the fixed base model. Moreover, the behavior of a 20 storey building on raft foundation is also similar to a fixed base model. However, it is observed that the nonlinear soil-foundation system and raft on pile, introduces significant flexibility in the structural model. The response reduction factor (R) is also significantly affected by the incorporation of foundation-flexibility. It can therefore be concluded that the type of soil and the foundation on which the structure is resting is very important for design purpose.

'Optimization of injection molding process parameters of injection molding machine by using Taguchi method for HDPE of grade HD50MA180'

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Abstract:--

Injection molding process is widely used process for producing plastic products in industries. operating parameters of injection molding machine are needed to produced better quality of product. In this thesis Taguchi method is used to optimize the process parameter combination from the three controllable process parameters on setting of three level to improve the quality characteristics (shrinkage). melting temperature, packing pressure & injection pressure is selected for the experiment. Optimization of injection molding process parameter will be carried out using HDPE (50MA180) as the material. The design of experiments (DOE) is used to optimize input parameters and achieve good results using "orthogonal arrays" (OA) by Taguchi method. L27 orthogonal array was selected for this experiment and signal to noise ratio (S/N) is applied to obtained optimum process parameters. The analysis of experiment is performed on MINITAB-17 statistical software & analysis of variance (ANOVA) shows the percentage contribution of each control factor. This result shows that the Melting temperature contribute the most by 52.65% Injection pressure contribute 10.886% and Packing pressure 9.592% melting temperature and injection pressure was found to be most effective factor for HDPE material. packing pressure was found to be the least effective factor.

Keywords:--

Injection molding machine, optimization, Taguchi method, Minitab-2017, ANOVA, DOE.

The Essential of English Language learning context for Engineering graduates

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Abstract:--

The aim of this paper is to make the students speak in English without any hesitation. Particularly, the slow learners at the engineering college level are not trained to get the placements. The needy of English language skills emerged for engineering graduates to meet the global arena. But in the present scenario they lacked in the communication skills due to the lack of practice, lack of structural grammar usage and the mother tongue influence which plays a vital role as an obstacle in the communication. The AICTE (All India Council for Technical Education) also felt the importance of English in Technical education and has designed the English syllabus for engineering students to enhance the four skills (LSRW) in English. The main objective is, to develop the four skills and to enhance students' performance at placement interviews, Group Discussions, technical paper presentation etc. The view of the expert bodies throws light on the changing paradigms of English in the curriculum of schools and colleges. The University Education Commission (1948) stressed the need to learn English to keep in touch with the stream of knowledge.

Keywords:--

communication, grammar, four fold skills, presentation

Random Early Detection-A Comparative Techniques Performed In Red in Network Trafficking

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Abstract:--

This paper describes the random Early Detection and its algorithm which was proposed by sally Floyd .It is used for the congestion control in Active Queue Management in Network Trafficking .However there are many techniques are acquired for the congestion control mechanisms , Random Early Detection has its own priority. This technique is an effective technique since it senses the congestion well in advance before the collision has been occurred by the probability of threshold values.

Keywords:--

Coarse Aggregate, Concrete, Coconut Shell, Compressive Strength, Light Weight Concrete, Sustainable Development.

Improving Soft Skills by Enhancing the Ideology of Multiculturalism in Corporate World

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Abstract:--

Multiculturalism has become a significant concept contemplated over by everyone in rather every domain. Culture can be delineated precisely as the love for one's own society, civilization, morals, principles, language and the way of life in which one is born. If there is a strong aptitude and outlook to learn others' culture, it is invariably attainable to have cultural ease, cultural competence, cultural forbearance and fine-tuning. Such concepts of having a flair and perspective represent soft skills of a person.

Soft skills embodies the flexibility of the individuals to be versatile and adapt to the dynamic requirements of a corporation. The ability to deal with divergences and multiculturalism is an essential requirement of the hour. Developing communicative behaviour occupies a central role among the soft skills. Therefore tutoring in corporate world should be designed to impart communicative behaviour containing face-to-face settings, interactive activities, role plays and cluster discussions.

In the prevailing intercultural work places, management must consider all the angles of culture in order to build a more fruitful manpower. Five important factors that operate at team levels can be identified.

1. Native culture
2. Corporate culture
3. Functional culture
4. The formation stage
5. Individual elements

Firms have to be attentive when negotiating business deals and using various forms of non-verbal communication such as total visual communication, language, gestures, appearance, posture, eye contact, paralanguage and symbolism. Its need of the hour is to maintain cultural fluency to perform like a person of the native culture. The culture of the people influences the culture at corporate. Cultural dimensions such as geographical detachment, individuality vs collectivism, manliness vs femininity, and finally, long term orientation should be taken into account to understand cultural influences. One has to pay particular notice to these factors in a multicultural milieu.

Keywords:--

Multiculturalism - Soft skills - communicative behavior - business environment - Cultural dimensions - Globalization - Multicultural Team Management – corporate world

Implementation of Arduino Based AC Voltage Controller Using Single Phase Controller Techniques

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Abstract:--

This paper introduces a high efficiency AC voltage regulator based on an AC/AC buck converter cascaded by a transformer in series with the input voltage. The AC/AC converter uses an overlap time in the gate signals to solve the commutation problem. Non-use of any snubber circuits and current sensors leads to lower cost, smaller size and simpler hardware. The converter generates only the compensation term which results in smaller switches and, thus, lower cost. Simulation and experimental results verify the performance of the proposed topology.

Keywords:--

AurdinoUNO, AC Voltage Regulator, AC Chopper, AC/AC Buck Converter, Power Electronics, Light Emitting Device.

Line Follower Alphabot Using Arduino Micro Controller

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Abstract:--

This paper has been designed to build an Line following Robot using IR sensor to follow a designated path which is provided and runs over it. ROBOT has sufficient intelligence to cover the maximum area of space provided. It will move in a particular direction Specified by the user to navigate the robot through a black line marked in the white surface .Autonomous Intelligent Robots perform desired tasks in unstructured environments without continuous human guidance. The path can be visible like a black line on the white surface (or vice-verse) or it can be invisible like a magnetic field. Sensing a line and maneuvering the robot to stay on course, while constantly correcting wrong moves using feedback mechanism forms a simple yet effective closed loop system.The base of the developed robot is Arduino UNO R3 which is a microcontroller board based on the ATmega328 (datasheet).

Keywords:--

Line follower, IR sensor, Robot, Arduino, ATmega328

Arduino based Web Control of Multiple Servo Motors with ESP 8266 wifi module

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Abstract:--

Nowadays, Wireless applications are widely extended in the Scientific, Education and Hobbyist communities. The aim of this paper is to provide a review of some of the most popular boards which allow an ease way to develop a wide range of applications related to STEM (Science, Technology, Engineering and Mathematics) in an educational manner. Moreover, the scope is focused on those development boards which allow Wireless communications in order to perform Things which can be integrated into an Internet of Things environment. Arduino WiFi Shield, Arduino úno Shield,node MCU ESP8266 and Onion Omega have been analyzed, compared and discussed. The analysis has been carried out attending on the Built-in Hardware, the Programmer Interface, the connection possibilities and the Developer

Keywords:--

Arduino UNO, servo motor, esp8266, web camera

Remote Control of Home Appliances via Bluetooth and Android Smart Phones

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Abstract:--

With everyone being on the move in a fast paced World, technologies have been increasing rapidly.ThisWork is regarding a student-designed project allowing users to be able to control multiple appliances remotely from Single mobile device. This project involves the use of Bluetooth Communication and the Arduino Uno Rev 3 Microcontrollers. The whole idea is to design an app on an Android cell phone to control home appliance remotely such as lights and fans Using AC power. Although there are commercially available products on the market that implement the control of multiple Applications with a single device, this project is a teaching Point for students to build their own communication networks, create Android phone apps, and practice electrical operation of circuits

Real-time Arduino Controller Inexpensive Active Dual Axis Solar Tracker

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Dr. S.Chandra Shekar Reddy., Professor, CJITS, Jangoan, Warangal, Telangana.

Abstract:--

Renewable energy is generally defined as energy that is collected from resources and continuously replenished, such as sunlight, water, wind, tides and biomass. Most of the renewable energy source comes either directly or indirectly from the sun. This solar energy can be utilised by using solar photovoltaic cells and photovoltaic effect to convert solar energy into electrical energy[1]. There are different types of mechanisms to improve the solar cell efficiency and to reduce the cost. Solar tracking system is the most appropriate method to improve efficiency of solar cells by tracking the sun with respect to its change in direction. Thus the solar trackers come into existence. The main aim of this paper is the design and construction of a real time dual axis arduino controlled solar tracker to get the maximum power from the solar panels by changing their direction with respect to sun. This setup uses Light Dependent Resistors (LDR) to sense the position of the sun which is interfaced to a Arduino Uno microcontroller which then commands a pair of linear-actuators to re-orient the solar panel in order to stay perpendicular to the sun rays. The design was constructed successfully and tested to determine the raise/gain in efficiency. The result shows the new system performs XX.XX% better than the immobile solar tracking system.

Keywords:--

Light dependent resistor, Solar PV panels , Dual axis Arduino controller solar tracker, Linear actuators.

Ethernet Based Control of Electrical Appliances with Arduino Uno Interface

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Abstract:--

This project is based on the construction of a model simulating a home automation with different operation modes which can be controlled also by Ethernet. To achieve this objective, a scale house that captures different signals, both digital and analog, has been developed. To approach the house to a real web server can be implemented in a device in your own home connected to your pc via a local area network. To capture the signals, the prototype has temperature, lighting, for the regulation and control. The core is an Arduino uno board that allows the application operation and receives, from an web server, operating modes commands and, if it is operating manually, orders to individually control the different actuators. For the data transmission from the arduino to the web server, is used communication via Ethernet.

Keywords:--

Home automation, Arduino uno, Ethernet,Web server

Home Automation with MATLAB and ARDUINO Interface

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CH Sampath., Student,Balaji institute of technology and science, Warangal,Telangana.
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Abstract:--

Home automation trade has drawn goodish attention of researchers for quite a decade. The main plan is to mechanically management and monitor electrical and electronic home appliances. Consistent with the marketing research firm ABI regarding 4 million home automation systems were subscribed globally in 2013.An equivalent firm additionally calculable that regarding 90 million homes would use home automation system by top of 2017,Many industrial and analysis versions of home automation system are introduced and designed. Good home system has captured many technologies. Main aim of this paper is to propose a system which demonstrates interfacing between MATLAB and Arduino board for household equipment monitoring and control. In proposed system, Arduino board is interfaced with MATLAB using serial communication to control home appliances. Image acquisition device is interfaced to MATLAB that will continuously show the status of household equipments on Graphical User Interface [GUI] designed in MATLAB. Proper commanding is done from MATLAB GUI, household equipments can be turned ON or OFF which are interfaced to Arduino through relay board.

Keywords:--

Arduino UNO, MATLAB, Automation, Condition monitoring, Computerized Monitoring.

Design and Implementation of Robo Arm Control Based on Matlab with Arduino Interface

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Mr.M. Karthik Reddy., Asst. Professor, Balaji institute of technology and science, Warangal,Telangana.
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Abstract:--

In the present days, number of situations exist where it is not possible for a human operator to do an activity on his/her own, due to a levelof danger or difficulty involved. They may involve taking readings from an active volcano, entering a building on fire,diffusing a bomb, or collecting a radioactive sample. Rather than compromising on human lives, it is better to employ robotic systems for performing difficult tasks. Robotic systems are far superior in ensuring the accuracy of the system under adverse circumstances wherein a human operator may lose his/her composure and focus. Here we propose to build a robotic arm controlled by matlab / simulinkinterfacing with arduino uno. The development of this arm is based on Arduino platform and matlab A servo motor is a combination of DC motor, position control system, gears. The position of the shaft of the DC motor is adjusted by the control electronics in the servo, based on the duty ratio of the PWM signal .Servo are proposed for low speed, medium torque and accurate position application. These motors are used in robotic arm machines, flight controls and control systems. This project presents an interactive module for learning both the fundamental and practical issues of servo systems interface with ARDUINO UNO .This project, developed using Matlab codeing tool, is used to control robotics applications. The objective of this project is to control the servo by using ARDUINO UNO with MATLAB & SIMULINK.

Keywords:--

Arduino UNO, Servo motors, ATmega 328, matlab, pwmsignal ,robotic arm

Mobile Cloud Computing: Secure Cloud Storage and Integrity with Trusted Crypto Mechanism.

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Abstract:--

Cloud Computing is already recognized as next generation computing infrastructure. Mobile applications are widely reached every in current trends because of its availability. Together with higher growth of the mobile applications and emerging of cloud computing concept, mobile cloud computing (MCC) has been introduced to be a person potential technology for mobile services. MCC integrates the cloud computing into the mobile environment and overcomes obstacles related to the performance (e.g., battery life, storage, and bandwidth), environment (e.g., heterogeneity, scalability, and availability), and security (e.g., reliability and privacy) discussed in mobile computing. In this the survey on MCC and the risk factors of MCC with data of the user and infrastructures will be analyzed and search for well suitable techniques.

A Secure and Dynamic Multi-keyword Ranked Search Scheme over Encrypted Cloud Data

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Abstract:--

Due to the increasing popularity of cloud computing, more and more data owners are motivated to outsource their data to cloud servers for great convenience and reduced cost in data management. However, sensitive data should be encrypted before outsourcing for privacy requirements, which obsoletes data utilization like keyword-based document retrieval. In this paper, we present a secure multi-keyword ranked search scheme over encrypted cloud data, which simultaneously supports dynamic update operations like deletion and insertion of documents. Specifically, the vector space model and the widely-used TF_IDF model are combined in the index construction and query generation. We construct a special tree-based index structure and propose a "Greedy Depth-first Search" algorithm to provide efficient multi-keyword ranked search. The secure kNN algorithm is utilized to encrypt the index and query vectors, and meanwhile ensure accurate relevance score calculation between encrypted index and query vectors. In order to resist statistical attacks, phantom terms are added to the index vector for blinding search results. Due to the use of our special tree-based index structure, the proposed scheme can achieve sub-linear search time and deal with the deletion and insertion of documents flexibly. Extensive experiments are conducted to demonstrate the efficiency of the proposed scheme.

Electronic Scrolling Display Using Arduino Board

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Abstract:--

The led Display System is aimed at the colleges and universities for displaying day-to-day information continuously or at regular intervals during the working hours. Being GSM-based system, it offers flexibility to display flash news or announcements faster than the programmable system. Keyboard-based display system can also be used at other public places like schools, hospitals, railway stations, gardens etc. without affecting the surrounding environment. The led display system mainly consists of a receiver and a display toolkit which can be programmed from an Arduino IDE platform. It receives the message, through serial port and displays the desired information after necessary code conversion. It can serve as an electronic notice board and display the important notices instantaneously thus avoiding the latency. Being modular design, the led display is easy to expand and allows the user to add more display units at anytime and at any location in the campus depending on the requirement of the institute.

Vibration Analysis of DC Motor with ADXL335 and MATLAB

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P.Akshitha., Balaji institute of technology and science, Warangal,Telangana.

Abstract:--

Most of the failures in the industrial systems are due to motor faultswhich can be catastrophic and cause major downtimes. Hence, continuous health monitoring, precise fault detection and advance failure warning for motors are pivotal and cost-effective. The identification of motor faults requires sophisticated signal processing techniques for quick fault detection and isolation. This paper presents a real time health monitoring technique for induction motor using pattern recognition method.The proposed fault detection and isolation scheme comprises three stages: data acquisition, feature extraction and multiclass support vector machine classifier.This paper investigates single and multiple faults in single-phase induction motor including bearing fault, load fault and their combination. The testbed consists of 1⁄2 hp, 220V squirrel cage induction motor with load, vibration sensor,current sensor, data acquisition system and controller. Two features standard deviation and average value are computed for each sensor's data. Multiclass support vector machine classifier is implemented using a low-cost arduino controller for fault detection and isolation. The performance analysis of the classifier with real time sensor's data is presented which shows superior capabilities of developed method.

Keywords:--

arduino, MATLAB, ADXL335

IOT Based Remote Monitoring of Weather Parameters for Solar, Wind Applications

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Abstract:--

A weather station can be described as an instrument or device, which provides us with the information of the weather in our neighbouring environment. For example it can provide us with details about the surrounding temperature, barometric pressure, humidity, etc. Hence, this device basically senses the temperature, pressure, humidity, light intensity, rain value. There are various types of sensors present in the prototype, using which all the aforementioned parameters can be measured. It can be used to monitor the temperature or humidity of a particular room/place. With the help of temperature and humidity we can calculate other data parameters, such as the dew point. Weather monitoring plays an important role in human life, so the collection of information about the temporal dynamics of weather changes is very important. In any industry during certain hazards it is very important to monitor weather.Two sensors are connected to the NodeMCU namely temperature and humidity sensor(DHT11) and light dependent resistor(LDR).

Keywords:--

IoT, ESP8266, DTH11 Sensor, LDR Sensor.

Triclustering Algorithm for 3D Gene Expression Data Using Correlation Measure

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Abstract:--

In gene expression data analysis there are various biological data mining methods have been proposed. Among them, Co-clustering or Biclustering is a common method to extract the gene groups that behave similarly/coherently under a subset of experimental conditions. Due to increasing the dimensionality of gene expression data, the three-way clustering method called triclustering is developed recently for three-dimensional gene expression analysis. It is used to mine the coherent cluster named tricluster in three-dimensional gene expression datasets. This paper introduces a novel correlation measure to find the correlation between the genes, condition and time point in 3D gene expression dataset. The proposed method has applied to time series data obtained from yeast cell cycle analysis. From the result, it is evident that proposed algorithm mines the highly correlated 3D cluster or tricluster from gene expression data.

Keywords:--

Triclustering, Correlation, Gene expression, Yeast cell cycle, Bioinformatics

Investigating the Effects of Different Sintering Temperatures on the Microstructure and Mechanical Properties of Al-Al_2o_3 Nano-Composites by Powder Metallurgy

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Abstract:--

This research focused on the study of the influence of different sintering temperatures of physical and mechanical behavior of Aluminum Metal Matrix Composites (Al MMC) reinforced with Nano alumina (Al2O3). Al MMC reinforced with rigid ceramic particulates have become increasingly important for structural applications in aerospace, automotive and other transport industries, because of their high specific strength and modulus, good wear resistance as well as ease of processing. In this project, the influence of sintering temperature was investigated on its mechanical and microstructure properties. These Al MMCs have been traditionally fabricated by powder metallurgy (PM) method. The experiments were performed on 5%,10% weight percentage of Nano Al2O3 on different sintering temperature. In this study, the specimens of the composite were sintered with different temperature which are 5800C 6000Cand 6200C. Then, the influence of different sintering temperature on physical and mechanical behavior of the composite was studied. The specimens were investigated on their mechanical and microstructure properties.

Earthquake Resistant Low-Rise Open Ground Storey Framed Building by Pushover Analysis

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Abstract:--

Presence of infill walls in the frames alters the behaviour of the building under lateral loads. However, it is common industry practice to ignore the stiffness of infill wall for analysis of framed building. Engineers believe that analysis without considering infill stiffness leads to a conservative design. But this may not be always true, especially for vertically irregular buildings with discontinuous infill walls. Hence, the modeling of infill walls in the seismic analysis of framed buildings is imperative. Indian Standard IS 1893: 2002 allows analysis of open ground storey buildings without considering infill stiffness but with a multiplication factor 2.5 in compensation for the stiffness discontinuity. As per the code the columns and beams of the open ground storey are to be designed for 2.5 times the storey shears and moments calculated under seismic loads of bare frames (i.e., without considering the infill stiffness). However, as experienced by the engineers at design offices, the multiplication factor of 2.5 is not realistic for low rise buildings. This calls for an assessment and review of the code recommended multiplication factor for low rise open ground storey buildings.

Keywords:--

Infill walls, open ground storey, equivalent static analysis, response spectrum analysis, pushover analysis, low rise building.

To Improve the Gesture Recognition Rate with Skeletal Data by Using Dynamic Time Warping Technique

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Abstract:--

Gestures are very useful for human related communication. This communication is very important between human and computer. These applications are very useful for input device such as keybord.Now the advanced cameras like kinect are invented not only for RGB colors ,it is also useful for getting information from the information from the human body in rich way .This information containing 3-D positions of human for calculating depth information and gesture calculations. Such information gives in the form of skeletal data. In this paper, the method follows the gesture recognition based skeletal data using Dynamic Time Warping classifier. From this review the better results are motivated compared with state -of hart -of classifiers.

Keywords:--

Gesture Recognition, Nearest Neighbour Classifier, Dynamic Time Warping, Kinect, Skeletal Data, Matlab.

Hydrothermal Synthesis and Characterisation of Molybdenum Oxide/ Reduced Graphene Oxide Nanocomposite for Energy Application

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Abstract:--

Despite the importance of molybdenum oxide- reduced graphene oxide (MoO_3/RGO) nanocomposite due to its wide range of properties and corresponding applications, it is a potential candidate of electrode materials in super capacitors. Though there are a number of methods to synthesize molybdenum oxide/graphene nanocomposites, a highly desirable, alternative green method involving ecofriendly precursors and reagents is most important for the current and future scenario as for as sustainability and scalable production concerned. We herein, have reported the synthesis of (MoO_3/RGO) nanocomposite using a mild and facile hydrothermal approach. The preparation method involved the mild reagents such as ammonium molybdate tetrahydrate, hydrazine hydrate. etc. The hydrothermal reaction was carried out at about 200 °C. Highly pristine graphene oxide was obtained from mild treatment of raw pyrolytic graphite in an appropriate ratio of ethanol and water. The structure and morphology of so obtained MoO_3/RGO were studied by using X-ray diffraction (XRD) and scanning electron microscopy (SEM) techniques. The composition of the material was analyzed using energy dispersive x-ray (EDX) technique.

Keywords:--

RGO, MoO_3/RGO composite, hydrothermal reaction, super capacitor.

Nickel and Cobalt Metal-organic frameworks as advanced electrode materials for electrochemical energy storage and ion sensor application

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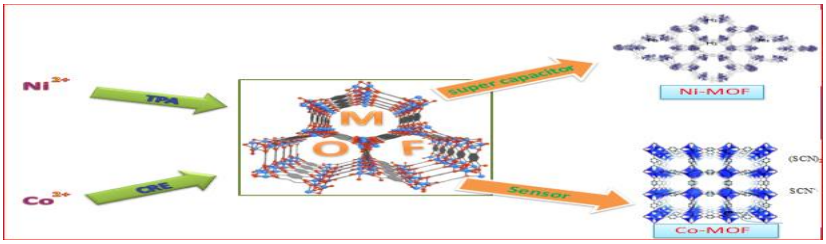
Abstract:--

The metal organic frameworks are the crystalline porous materials of great importance in the fields of energy and environment due to their high surface area and controllable porous structure. In this paper, we present a new solvothermal approach for the synthesis of Ni and Co based MOFs, which exhibit high electrochemical performance. The electrodes of the above Ni-MOF and Co-MOF have been tested for super capacitor and sensor application. The maximum specific capacitance of Ni-MOF was found to be 202 F g^{-1} at a scan rate of 1 A g^{-1}(about 99% capacitance retention after 2000 cycles), which corresponds to a very high energy density of 36.36 W h kg^{-1} and power density of 0.037 W kg^{-1}. The Co-MOF electrode was used to find the electron transfer capability, which in turn to detect thiocyanate ions. An excellent sensing property and cycling stability were observed with Co-MOF electrode. The Ni-MOF and Co-MOF would be the most promising electrode materials for hybrid super capacitor and sensor application as studied using three-electrode system in 6 M KOH solution.



Keywords:--

Ni-MOF, Co-MOF, thiocyanate, super capacitor, charge/discharge, sensor.

Removal of Fence from Digital Images

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Abstract:--

Many places e.g. parks, gardens, zoos and historical places are guarded by fences. The images captured at these places are occluded with a fence. This affects the authentic appeal of the image. So, removal of the fence form those images are required. In this paper, a novel algorithm is proposed for the removal of the fence from the digital images. The fence in the image is segmented by using the multiple threshold values. The segmented fence is used as a mask for the restoration of the image from the fence occlusion. The fence occluded region is restored by using the hybrid inpainting technique. The proposed algorithm is tested on a wide verity of images. Comparative results are provided to demonstrate the effectiveness of the proposed algorithm.

Keywords:--

occlusion, segmentation, inpainting, restoration

Updating Elevation-Area-Capacity Table of Singur Reservoir Using Satellite Data

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Abstract:--

Periodical capacity surveys of multi-purpose reservoirs help in assessing the rate of sedimentation and reduction in the storage capacity. The field engineers utilize the elevation-area-capacity (EAC) table to ascertain the daily capacity of the reservoir using EAC table. These EAC data has to be periodically updated to understand the amount of sediment deposited into the reservoir. Hydrographic surveys are the common, conventional methods used to update the EAC data. Water-spread area estimated by these surveys is input into the Trapezoidal formula to estimate the storage capacity of a reservoir. Such methods, however, are cumbersome, time consuming and expensive. As an alternative, satellite data has long been in use to estimate the water spread area at different elevations of a reservoir, which in turn can be used to quantify the capacity of the reservoir. multi-date satellite remote sensing provides the water-spread area of a reservoir at different water levels in a cost- and time- effective manner, which can then be input into the Trapezoidal formula. This methodology to estimate the capacity of a reservoir involves hard or per-pixel based classification to delineate the water spread area at a particular elevation. Approaches to water-spread area estimation from satellite image data, such as the maximum likelihood adopt the per-pixel based methodology and assign a pixel to a single land cover type. In this study to estimate water spread area of Singur reservoir per-pixel based approach is used. To estimate the water spread area of Singur reservoir maximum likelihood classification (MLC) and the Normalised Difference Water Index (NDWI) approaches were adopted. Landsat-8 satellite image data (30m) of six optimal dates ranging from minimum draw down level (MDDL-510.6 m) to full reservoir level (FRL – 523.6 m) were used to estimate the water spread area of the reservoir. Satellite data ranging from 11 February 2014 to 15 December 2015 were used in this study. The capacity of the reservoir during impoundment (1987) was 834.0 Mm^3. The extracted water-spread areas using maximum likelihood and NDWI were in turn used to quantify the capacity of the Singur reservoir. The estimated capacity of the Singur reservoir using maximum likelihood and NDWI were 727.75 Mm^3 and 716.11 Mm^3 respectively. Therefore, the study reveals that the reduction in capacity of Singur reservoir during a period of 28 years (1987 – 2015) using two different approaches were 106.25 Mm^3 and 117.89 Mm^3 respectively. If uniform rate of sedimentation is assumed, in 28 years of operation of the reservoir, then the sedimentation rate would be 4.38 ha-m/100 sq.m/yr and 4.86 38 ha-m/100 sq.m/yr respectively.

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Groundwater Flow Modelling Using Visual MODFLOW - A Case Study of Lower Ponnaiyar Sub-Watershed, Tamilnadu, India

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Abstract:--

Groundwater model is used to predict the effects of hydrological changes like groundwater extraction or irrigation developments on the behaviour of the aquifer and are often named as groundwater simulation model. Visual MODFLOW is the U.S. Geological Survey modular finite-difference flow model, which is a computer code that solves the groundwater flow equation. In this study, the Visual MODFLOW is used to simulate the flow of groundwater through aquifers in Lower Ponnaiyar watershed, Tamilnadu, India. The three layer model is run with four phases that are model design, calibration, validation and prediction. The model is calibrated in two stages, which is involved a steady state calibration and transient state calibration using observed groundwater levels from 2005 - 2014. The validation is done by using observed groundwater levels from 2014 - 2016. The spatial distribution of hydraulic conductivity and storage properties are optimized using a combination of trial and error method. The simulation results showed that the fluctuations of hydraulic heads are dependent on seasonal variation in recharge from natural infiltration of precipitation and irrigation. The different scenarios are developed to predict aquifer system response under different conditions of the study area. The calibrated parameters are very useful to identify the aquifer properties and to analyze the groundwater flow dynamics and the changes of groundwater levels in the study area. The study suggests that from the prediction the recharge rate must be improved in the villages like Tiruppanambakkam, Karaimedu, Agaram , Kavanippakam, Anangur, Pillur, Tiruppachanur, Pedagam and Perangiyur which are located nearer to the river course. Also, this study concluded that the water level is high in central western part and declining towards the south Ponnaiyar River.

Keywords:--

Visual MODFLOW, calibration, aquifer properties, groundwater level.

Feasibility studies on Fibrous Self Curing Concrete Using Polypropelene Fibre

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Abstract:--

Today Water is the most required substance in the era. In common, Curing of concrete is maintaining moisture in the concrete during early ages specifically within 28 days of placing concrete, to develop desired properties. Proper curing of concrete is essential to obtain maximum durability, especially if the concrete is exposed to serve conditions where the surface will be subjected to excessive wear, aggressive solutions and severe environmental conditions. Poor curing practices adversely affect the desirable properties of concrete which makes a major impact on the permeability of a given concrete.
Unexpected shrinkage and temperature cracks can reduce the strength, durability and serviceability of the concrete. The surface zone will be seriously weakened by increased permeability due to poor curing. The development of concrete shrinkage is proportional to the rate of moisture loss in concrete. When concrete is properly cured, water retained in concrete would help continuous hydration and development of enough tensile strength to resist contraction stresses. The continuous development of strength reduces shrinkage and initial cracks or micro-cracks. As a part of this investigation of Fibrous Self Curing Concrete, proportion and addition of Polypropylene Fibre resulted in the formation of micro cracks in order to reduce the autogenous shrinkage and improvement of durability.

Keywords:--

Water scarcity; Autogenous shrinkage; Temperature cracks; Internal curing; Polyethlene Glycol; Polyproplene Fibre.

Evapotranspiration Estimation Using Satellite Data

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Abstract:--

Evapotraspiration (ET) is an important parameter in the hydrological cycle because it represents a considerable amount of water lost from a watershed. Its accurate estimation is important for the design, operation and management of irrigation systems. Approximately 62% of the precipitation over continents is evapotranspired on an annual scale. The SEBAL (Surface Energy Balance Algorithm for Land) model provides an efficient tool for estimating the spatial distribution of ET. SEBAL is a spatial ET estimation method based on energy balance and a satellite remote sensing technique, which partitions between sensible heat flux and latent heat of vaporization flux. The SEBAL method has been validated under various conditions around the world. In addition, the method has been applied in various studies to assess ET rates by different satellite sensors including MODIS. Generally ET was calculated as a point data and gets interpolated to the nearby location. But this method does not yield the accurate results. Main drawback of this approach is that, the intermediate stations are lagging to extract accurate result. Therefore, remote sensing technique is suggested as an alternative method for ET estimation. One of the advantages of using satellite data is that it provides the value for each and every pixel which can be monitored using MODIS (Moderate Resolution Imaging Spectro-radiometer) satellite data. The objective of the present study is to estimate the monthly evapotranspiration of West Godavari district, Andhrapradesh by integrating input derived from satellite data and SEBAL algorithm. The main reason for considering MODIS data in this study is that it provides high spatial and temporal resolution. Monthly Satellite data of MODIS sensor of Terra/Aqua Satellites were utilized for the estimation of evapotranspiration. So, that the data set is available at lesser interval and the estimated accuracy of ET will be more. The estimated value of ET for West Godavri district for the months January, February, March, April, and May are 152.07mm, 153.40mm, 204.29mm, 216.18mm and 266.35mm respectively.

Efficient Automation of Enhanced Process of Nitrogen Generation Plant Using Psa Principle by Using Plc & Scada

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Abstract:--

In recent days most probably all industrial processes and parameters are controlled by using PLC & SCADA programming. The industrials like Oil refineries, Steel industries, Chemical plants, Shaving products plants. Nitrogen is a corrosive gas and it is usually used in Heat treatment plants. Also It is used to dilute reagent gases, to increase yield of some reactions, to decrease the fire or explosion.

We generate nitrogen gas by using Pressure swing adsorption principle. Working of this principle depends upon the sequencing of Adsorbing and Desorbing of Carbon molecular sieves by sequence of tower valves. These Valves are controlled by numerous cam timers, solenoid valves, Actuators and changeover Adsorbing & Desorbing of carbon molecular strainer is depending upon the Opening and closing of PSA valves. So finally Purity of nitrogen is depending upon the multiple cam timers, solenoid valves, Actuators and changeover valves. This is semi automated. We are developing the PLC & SCADA Programming for this process. This paper describes by adding a Booster after Nitrogen surge vessel to increase pressure and placing the old electromechanical command with the PLC and SCADA. First it displays the ladder logic that can be implemented to operate the Nitrogen generator plant. Secondly it exhibits installation of PLC in the plant and factors to be regard for its installation and operation.

Index Terms:--

Booster compressor, Nitrogen, Psa Towers, PLC, SCADA.

Research on Energy Saving MAC Protocol Based on Reporting Service in Wireless Sensor Networks

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Abstract:--

The most important issue that must be solved in designing a data gathering algorithm for wireless sensor networks (WSNS) is how to save sensor node energy while meeting the needs of applications/users.In WSNs, sensors are usually equipped with capacity-unreplaceable battery sources. Therefore, optimizing an effective wireless sensor networkto maximizing the lifetime of sensor node in order to minimize energy resource and maximize overall system performance becomes important. Wireless sensor networks are widely used in various fields, but the network nodes are mostly battery-powered. Energy-saving has always been the core issue of wireless sensor networks.The existing research mainly improves MAC protocol, routing protocol and networking, reducing the energy consumption of wireless sensor network. This paper mainly studies the energy-saving of MAC protocol, analyzes the problems existing in MAC protocol, and improves the MAC protocol for its existing problems. The , S-MAC Protocol, T-MAC Protocol, H-MAC Protocols are designed. The main application scenario of the wireless sensor network is that the sensor nodes periodically collect sensing data and upload them to the sink node, and the service type thereof may be a single-cycle service or a multi-cycle service.No matter single-cycle service or multi-cycle service, when nodes in the network send data at the same time, according to the MAC competition mechanism, the probability of data collision increases significantly, energy waste and transmission delay increase due to data collision.According to the MAC protocol data prediction mechanism, the node has idle snooping in the receiving slot, and idle snooping causes the waste of energy.

Keywords:--

MAC protocol, CSMA, TDMA, QoS, hybrid scheme

A Review Paper on Encrypted Cloud Data Secure and Dynamic Multi-keyword Ranked Search Scheme

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Abstract:--

Conceptual the real point of this paper is to take care of the issue of multi-catchphrase positioned seek over scrambled cloud information (MRSE) at the season of ensuring precise technique shrewd protection in the distributed computing idea. Information holders are urged to outsource their troublesome information administration frameworks from neighborhood locales to the business open cloud for extensive adaptability and monetary reserve funds. However to protect information security, touchy information must be encoded before outsourcing, which performs customary information use in light of plaintext catchphrase look. Thus, permitting an encoded cloud information seek benefit is of preeminent essentialness. In perspective of the huge number of information clients and archives in the cloud, it is fundamental to allow a few watchwords in the inquiry request and return records in the request of their fitting to these catchphrases. Comparative component on accessible encryption influences fixate on single watchword to look or Boolean catchphrase seek, and once in a while sort the list items. Amidst different multi-watchword semantics, choosing the efficient similitude measure of "facilitate coordinating," it implies that whatever number matches as could reasonably be expected, to catch the proper information records to the hunt inquiry. Especially, we consider "inward item likeness" i.e., the measure of inquiry catchphrases appears in an archive, to quantitatively gauge such match measure that report to the hunt question. Through the record development, each archive is associated with a double vector as a sub list where each piece portrays in the case of coordinating watchword is contained in the report. The hunt question is additionally shows as a twofold vector where each piece implies in the case of comparing catchphrase shows up in this inquiry ask for, so the coordinated one could be precisely measured by the inward result of the question vector with the information vector. Then again, specifically outsourcing the information vector or the question vector will break the list security or the pursuit protection. The vector space demonstrate encourage to sufficiently offer pursuit exactness, and the DES encryption enable clients to involve in the positioning while the prevalence of figuring work is done on the server side by process just on figure content. As a result, information spillage can be annihilated and information security is ensured.

Keywords:--

Multi-catchphrase positioned look over scrambled cloud information, OTP, Product similarity, Cloud, Data proprietors

Decrement in Spectrum Handover in Cognitive Radio Networks using Unlicensed Channels

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Abstract:--

Cognitive radio networks are addressing the spectrum scarcity problem by allowing secondary users to utilize licensed spectrum for their work. Spectrum handover is a technique through which dynamic usage of spectrum is possible. But excess of spectrum handovers causes degradation in performance of the secondary user. Spectrum handover has an unfavourable effect on the link maintenance of secondary user. In this paper, Dynamic Spectrum Access using unlicensed channels as Backup channels (DSAB) technique is used for decreasing performance degradation caused by excess of spectrum handovers in cognitive radio ad hoc networks. A mathematical model is proposed to appraise the performance of DSAB in terms of two measures: link maintenance probability, expected number of spectrum handovers. Performance evaluation of DSAB shows an advancement in two measures of performance.

Keywords:--

Cognitive radio, Dynamic Spectrum Access using unlicensed channels as Backup channels (DSAB), link maintenance, non-cognitive user, primary user, secondary user, spectrum handover.

Improved Spectrum Handover scheme in Cognitive Radio Ad Hoc Networks using Backup Channels

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Abstract:--

The advancement in wireless technologies demands dynamic spectrum allocation in an effective way. A cognitive radio networks can fulfil these demands by allowing secondary users to access licensed spectrum, when primary users are not utilizing it. Dynamic utilization of available spectrum can be accomplished by spectrum handover. Spectrum handover occurs when a primary user approaches a channel which is already engaged by a secondary user. Spectrum handover has an unfavourable effect on the link maintenance of secondary user. In this paper, Dynamic Spectrum Access using unlicensed channels as Backup channels (DSAB) technique is proposed for decreasing spectrum handovers in cognitive radio ad hoc networks. A broad mathematical model is analysed to estimate the performance of DSAB in terms of two metrics: link maintenance probability and expected number of spectrum handovers. Performance evaluation of proposed DSAB technique is compared with the existing techniques which results an improvement in the mentioned metrics parameters.

Keywords:--

Cognitive radio, Dynamic Spectrum Access using unlicensed channels as Backup channels (DSAB), link maintenance, non-cognitive user, primary user, secondary user, spectrum handover.

Scaling of wall shear stresses in emergent, sparse and rigid vegetated open channel flows with rough bed interior of the vegetation patch

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chitrangaini shau., Department of Civil Engineering, IIT Kharagpur, WB, India.
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Abstract:--

In this study, scaling of dominant Reynolds shear stress within the vegetation patch is performed. To simulate such flows, an emergent and sparse vegetation patch is prepared using acrylic cylindrical rods with regular spacing in streamwise and lateral directions. The vegetation patch is placed in the middle cross-section of the open channel flume. Three dimensional flow velocities interior of the vegetation patch are measured using a Nortek Vectrinoplus Acoustic Doppler Velocimeter. The measurements are taken along the centerline in the vegetation patch. The dominant Reynolds shear stress (RSS) interior of the vegetation patch is found to be less than the vegetation free fully developed flow. In addition, RSS values are decreasing in the downstream direction within the vegetation patch although there is similarity in the shape of RSS profiles. Decrease in flowrate in the downstream direction along the centerline is responsible for the decrease in RSS values. There found to be a band width in which all RSS values near the bed are contained. In the similarity analysis, the RSS profiles scaled such that non-dimensional RSS profiles collapse on each other. Similarity of non-dimensional RSS profiles is attempted in the paper. Scaling demonstrates wake effect, velocity defect, disturbance in the boundary layer and etc. in addition to highlighting typical behavior of RSS profiles in any general emergent vegetation flows.

Keywords:--

Open channel flow, Emergent vegetation patch, ADV, Reynolds shear stress, Scaling.

Design of Image Editor & Edge Detector in Matlab GUI Environment

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Abstract:--

Digital Image Processing techniques can enhance or distort an image, highlight certain features of an image, create a new image from portions of other images, restore an image that has been degraded during or after the image acquisition.

This paper envisages the implementation of basic features of Image Processing like viewing the red, green and blue components of a colour image separately, converting image to gray, black & white, negative; image addition & joining, comparison, crop, resize, increase/decrease brightness, rotate and edge detection using different algorithms etc. Also it deals with accessing Webcam and getting snapshot from it to process.

Keywords:--

Image Processing, MATLAB, GUI, Edge Detection

Phone Parking System with Privacy-Preserving

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A.SanyasiRao., Associate, Balaji Institute of Technology & Science.

Abstract:--

Most urban areas around the globe expect drivers to pay for the time they involve a parking space. Along these lines, drivers are urged to abbreviate stopping time so different drivers are given a sensible shot of discovering stopping. The conventional route, in light of moving to a compensation station and setting the issued stopping ticket on the dashboard of the auto, shows a few disadvantages like predicting ahead of time the length of stopping or the need to move to the auto on the off chance that the stopping time must be expanded. In the course of the most recent couple of years, a few applications allowing to pay through the cell phone have showed up. Such applications oversee point by point data about stopping tasks with the goal that exact profiles of stopping propensities for auto proprietors can be made. In this paper we propose a framework to pay for stopping by telephone which saves the protection of drivers as in the data oversaw by the framework is demonstrated not to help an aggressor with full access to it to improve the situation that she would do by watching the city for gathering data about stopped autos.

Keywords:--

Cryptography, Pay-by-telephone stopping, Privacy.

Energy Efficient Handling of Big Data in Embedded, Wireless Sensor Networks

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Abstract:--

The advancement of remote gadget systems has come to some degree whereverevery individual hub of a system could store and convey a tremendous amount of (sensor based) information straightforwardly or after some time. Inside the future, enormously associated, to a great degree dynamic remote gadget systems like vehicle-2 vehicle correspondence circumstances could hold significantly bigger information potential. This can be to a great extent as a result of the ascent in hub quality. Therefore, information volumes can turn into a tangle for old learning collection techniques movement astute further like pertinence vitality intensity. In this manner, amid this paper we prescribe to choice such circumstances gigantic learning circumstances as they cause comparable inquiries and issues as antiquated gigantic learning circumstances. Despite the fact that the last mentioned center absolutely around business insight issues. we tend to at that point propose A collection methodology fixing to innovative stipulations that change the sparing utilization of vitality furthermore, thusly the treatment of tremendous learning volumes. Besides, we have a tendency to exhibit the vitality protection potential bolstered explores different avenues regarding real gadget stages.

Keywords:--

WSN, Vehicle Communication, Big Data, Energy Efficiency.

A Fault-Tolerent Memory System for Nano Memory Applications

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Abstract:--

Due to the increase in soft error rate in logic circuits, the encoder and decoder circuitry around the memory blocks have become susceptible to soft errors as well and must also be protected. We introduce a new approach to design fault-secure encoder and decoder circuitry for memory designs. Hamming codes are often used in today's memory systems to correct single error and detect double errors in any memory word. In these memory architectures, only errors in the memory words are tolerated and there is no preparation to tolerate errors in the supporting logic (i.e. encoder and corrector).

However combinational logic has already started showing susceptibility to soft errors, and therefore the encoder and decoder (corrector) units will no longer be immune from the transient faults. Therefore, protecting the memory system support logic implementation is more important. Here we proposed a fault tolerant memory system that tolerates multiple errors in each memory word as well as multiple errors in the encoder and corrector units. We illustrate using Euclidean Geometry codes and Projective Geometry codes to design the fault-tolerant memory system, due to their well-suited characteristics for this application.

Keywords:--

soft error rate, fault-secure, Euclidean Geometry Code.

Foreign Direct Investment: It's Impact on Developing Counties Economy - A Study of India

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Abstract:--

Foreign direct investment (FDI) is considered to be one of the important factors, which leads to the globalization of an economy. The globalization over the last two decades has been hailed as a major development, which result in economic prosperity in developing countries. In this paper, we have attempted to identify the Determinants , impact and problems associated with India's current foreign direct investment regime, and more importantly the other associated factors responsible for India's un attractiveness as an investment location. The presence of large domestic market, fairly well developed financial architecture and skilled human resources, it can attract much larger foreign investments than it has done in the past. India's present international investment regime facilitates easy entry of foreign capital in almost all areas subject to specific limits on foreign ownership. Entry options have not only become procedurally simpler, but prospects for higher yields from investment have also become brighter. But further boost to Foreign Direct Investment (FDI) will depend significantly on further liberalization of its foreign investment regime. The paper provides the brief synthesis of the regime and analyzes the economic and policy variables as the important determinants of FDI inflows to India.

Keywords:--

Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), Gross Domestic Product (GDP), Economic Policy Reform

Data Encoding Techniques for Reducing Energy Consumption in Network-On-Chip

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Abstract:--

In this paper, we display an arrangement of information encoding plans went for diminishing the power disseminated by the connections of a NoC. As innovation recoils, the power disseminated by the connections of a system on-chip (NoC) begins to contend with the power dispersed by alternate components of the correspondence subsystem to be specific the switches and the system interfaces (NIs). The proposed plans are general and straightforward regarding the hidden NoC texture (i.e., their application does not require any adjustment of the switches and connection design). Examinations completed on both engineered and genuine movement situations demonstrate the adequacy of the proposed plans, which permit setting aside to 51% of energy scattering and 14% of vitality utilization with no huge execution corruption and with under 15% territory overhead in the system interface. The EDA instrument utilized as a part of the paper is Software apparatuses i.e. Modelsim 10.0c (Simulation), Xilinx ISE 14.4 (Synthesis) and dialects utilized for yields is Verilog-HDL.

Keywords:--

Coupling Switching Activity, Data Encoding, Interconnection on Chip, Low Power, Network-On-Chip (Noc), Power Analysis.

Single phase clock distribution using lowpower and multiband Prescalar

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Abstract:--

Regularly the clock circulation system will devour around 70% of the aggregate power devoured by the IC since this is the main flag which has the most elevated action. Fundamentally for a multi clock area organize we build up a various PLL to cook the need, yet it devours more power. Thus, the fundamental point of this task is building up a low power single clock multiband arrange which will supply for the multi clock space organize. It is very valuable and prescribed for correspondence applications like Bluetooth, Zigbee, and WLAN. It is demonstrated utilizing Verilog mimicked utilizing Modelsim and actualized in Xilinx.

Keywords:--

Prescaler, PLL, Programmable Counter, Swallow Counter, MOD, sel, clk, MC.

Design of Built in Self Test based Multiplier using Veriolg HDL

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Abstract:--

The ever increasing applications of integrated circuits in the day-to-day useful electronic gadgets is the driving force for the development of high speed designs of configurable hardware designs. High speed is the main parameters that are targeted by modern circuit designers. Among the fastest increasing applications the audio and video signal processing applications are growing at a very high rate.Mobile applications have increased the technological improvements for digital signal processing applications. Multipliers are the very important logic operational unit of any processing unit in digital signal processing applications. The speed and performance of multiplier is among the efficiency improvement parameters of any digital hardware design. Another important feature of hardware designs is self-testingability. This feature provides reliability to the hardware mainly in case of configurable hardware applications. The built-in-selftest (BIST) feature helps in quick diagnosis of the hardware functional authenticity. This project presents a BIST based implementation of a multiplier. The proposed design is realized using Xilinx Tool using Verilog HDL. A Test PatternGenerator (TPG) is involved in the design for self-test design realization.

Keywords:--

BIST, TPG,self test design realization.

Rainfall-Runoff of Modelling Using Swat

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Satyaji Rao, Y.R ., Deltaic Regional Centre, National Institute of Hydrology, Kakinada, Andhrapradesh, India
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Abstract:--

The Soil and Water Assessment Tool (SWAT) is a physical process based model to simulate continuous-time landscape processes at a catchment scale. The catchment is divided into hydrological response units (HRUs) based on soil type, land use and slope classes that allows a high level of spatial detail simulation. The model predicts the hydrology at each HRU using the water balance equation, which includes daily precipitation, runoff, evapo-transpiration, percolation and return flow components. The surface runoff is estimated in the model using two options (i) the Natural Resources Conservation Service Curve Number (CN) method and (ii) the Green and Ampt method.

The rainfall and weather data has been collected from the global weather data provided by SWAT. Nagullapalli weather station is located nearest to the study area, the data pertaining to this station has been used for the simulation runoff of the study area for a period of 32 years from 1979 to 2010. One of the spatial data required for the simulation of SWAT is DEM. The DEM was derived from ASTER (Advanced Spaceborn Thermal Emission and Reflection Radiometer) data of 30 m resolution. Based on the spatial data the model computes the HRUs (Hydrological Response Units). With the help of the spatial and point data the model simulates the runoff of the basin. The final results are arrived at the outlet of basin which was instructed to the model. The highest runoff occurred during the 32 years of study period is 1140 m^3/sec in the year 2003 the next highest occurred was 1120 m^3/sec in the year 1994. The simulated data reveals that during the period 1999 -2010 the runoff in the basin has reduced considerably in-spite-of not much reduction in the rainfall pattern.

Updating Elevation-Area-Capacity Table of Singur Reservoir Using Satellite Data

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Abstract:--

Periodical capacity surveys of multi-purpose reservoirs help in assessing the rate of sedimentation and reduction in the storage capacity. The field engineers utilize the elevation-area-capacity (EAC) table to ascertain the daily capacity of the reservoir using EAC table. These EAC data has to be periodically updated to understand the amount of sediment deposited into the reservoir. Hydrographic surveys are the common, conventional methods used to update the EAC data. Water-spread area estimated by these surveys is input into the Trapezoidal formula to estimate the storage capacity of a reservoir. Such methods, however, are cumbersome, time consuming and expensive. As an alternative, satellite data has long been in use to estimate the water spread area at different elevations of a reservoir, which in turn can be used to quantify the capacity of the reservoir. multi-date satellite remote sensing provides the water-spread area of a reservoir at different water levels in a cost- and time- effective manner, which can then be input into the Trapezoidal formula. This methodology to estimate the capacity of a reservoir involves hard or per-pixel based classification to delineate the water spread area at a particular elevation. Approaches to water-spread area estimation from satellite image data, such as the maximum likelihood adopt the per-pixel based methodology and assign a pixel to a single land cover type. In this study to estimate water spread area of Singur reservoir per-pixel based approach is used. To estimate the water spread area of Singur reservoir maximum likelihood classification (MLC) and the Normalised Difference Water Index (NDWI) approaches were adopted. Landsat-8 satellite image data (30m) of six optimal dates ranging from minimum draw down level (MDDL-510.6 m) to full reservoir level (FRL – 523.6 m) were used to estimate the water spread area of the reservoir. Satellite data ranging from 11 February 2014 to 15 December 2015 were used in this study. The capacity of the reservoir during impoundment (1987) was 834.0 Mm^3. The extracted water-spread areas using maximum likelihood and NDWI were in turn used to quantify the capacity of the Singur reservoir. The estimated capacity of the Singur reservoir using maximum likelihood and NDWI were 727.75 Mm^3 and 716.11 Mm^3 respectively. Therefore, the study reveals that the reduction in capacity of Singur reservoir during a period of 28 years (1987 – 2015) using two different approaches were 106.25 Mm^3 and 117.89 Mm^3 respectively. If uniform rate of sedimentation is assumed, in 28 years of operation of the reservoir, then the sedimentation rate would be 4.38 ha-m/100 sq.m/yr and 4.86 38 ha-m/100 sq.m/yr respectively.

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