International Conference on Science, Engineering and Technology

(ICSET-2020)

Pune, Maharashtra

06th-07th March, 2020

Institute For Engineering Research and Publication (IFERP)

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Editorial:

We cordially invite you to attend the **International Conference on Science, Engineering and Technology (ICSET-2020)** which will be held at **Hotel Madhav International, Pune, Maharashtra** on **March 06th-07th, 2020**. The main objective of **ICSET** is to provide a platform for researchers, students, academicians as well as industrial professionals from all over the world to present their research results and development activities in relevant fields of Science, Engineering and Technology. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on cutting edge development of academia as well as industries. All accepted papers were subjected to strict peer-reviewing by a panel of expert referees. The papers have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results but also will provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities, research institutes and colleges. Many professors played an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in the review process, and to the authors for contributing their research result to the conference.

Since January 2020, the Organizing Committees have received more than 120 manuscript papers, and the papers cover all the aspects in Science, Engineering and Technology. Finally, after review, about 49 papers were included to the proceedings of **ICSET-2020**.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of **ICSET-2020** We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

Mr. Ankit Rath
Chief Scientific Officer (CSO)
Institute For Engineering Research and Publication (IFERP)

Message

IFERP is hosting the **International Conference on Science, Engineering and Technology** this year in month of March. The main objective of **ICSET** is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points, and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions. The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader.

I express my hearty gratitude to all my Colleagues, Staffs, Professors, Reviewers and Members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to travel such a long distance to attain this conference.

Sincerely,

Ankit Rath

International Conference on Science, Engineering and Technology

(ICSET-2020)

Keynote Speaker

ICSET-2020

Organized by

Institute For Engineering Research and Publication (IFERP)

N. Vivekanandan, M.Sc. (Maths), M.Phil. (Maths), M.E. (Hydrology), M.B.A. (Human Resources), M.A. (Public Administration), M.A. (Sociology), PGDCA, PGDOR, PGDSBSA, PGDSMA, PGDH, PGDPM & IR

Scientist
Central Water and Power Research Station, Pune, Maharashtra, India
(under the Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation, Government of India)

MESSAGE

It gives me immense pleasure to know that International Conference on Science, Engineering and Technology (ICSET-2020) is being organized by Institute For Engineering Research and Publication (IFERP) at Hotel Madhav International, Pune, Maharashtra, India, during 06th-07th March, 2020.

I firmly believe that the two-day conference will provide an excellent international forum to exchange new and innovative ideas in various fields of science and engineering and also to know about the latest advancements in technology. I also believe that the outcomes of the conference will definitely lead to identify solutions for solving issues related to flood and drought management, disaster prevention and mitigation, energy and environment, sustainable use of land and water, urban planning and management, etc.

I extend my best wishes to the organisers and committee members of the conference, and also greetings for the success of the conference.

N. Vivekanandan

Date: 01st March, 2020 (N. Vivekanandan)

ICSET-2020

International Conference on Science, Engineering and Technology

Pune, Maharashtra

06th-07th March, 2020

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International Conference on Science, Engineering and Technology

Pune, Maharashtra
06th-07th March, 2020

ABSTRACTS

ICSET-2020

Organized by

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Interrelation between climatic zone and bungalow building Design: Case of Tropical climate

Ajinkya Niphadkar, Shri J.J.T. University, Rajasthan, India
Shobhan Kelkar, Shri J.J.T. University, Rajasthan, India
Akshay Wayal, Shri J.J.T. University, Rajasthan, India

Abstract:--

In todays era, climate scenario is changing rapidly. People using huge amount of non renewable energy to achieve comfort condition. Global climate is becoming major problem for all countries resulting into natural and man made disasters. India categorized into six climatic zones. Climatic data of every zone differs from other. In such conditions, designing a bungalow which is achieving the human comfort conditions without using non renewable energy and catering to need of different climatic zones is important. Tropical climate conditions are temperature range is high, humidity level is very high. In such conditions, various design strategies such as building orientation, mutual shading, cross ventilation, pre – cooled winds, thermal mass (u – value), window shading devices plays an important role. Research paper focusses on various strategies that can be applied for the bungalow design in tropical climate and its result in terms of software simulation, heat gain and comfort conditions. An expected outcome of this research paper will be in terms of various strategies in terms priority that can be utilized to reduce the load on non renewable energy and also not extending the cost of construction having payback period of more than 5 years.

Keywords:--

Global climate, Tropical climate, human comfort, strategies, bungalow design

Affordable Housing: Need of upcoming smart cities

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Abstract:--

In globalization, concept of smart city is becoming a important part. Smart city is an urban area that uses different types of electronic Internet of things, sensors to collect data and then use visions earned from information to manage assets resources and services effectively. In Maharashtra, as of now many cities having proposal of smart cities. In such cities population & floating population is growing rapidly. People living in such cities are mostly middle class income group and they are looking for habitat which is affordable. It is becoming a important need for such cities. Various factors like land availability, ecofriendly environment, social surroundings, segregation of residential area etc. plays an important role. For proper development it becomes important to analyze all needs of such smart cities.

This paper is focused on key elements of smart cities and also identifying various demands and their depth for habitat for people living in such cities. At the same time, it is also focusing on various needs for requirement of affordable housing in upcoming smart cities. Outcome of this paper will be the guideline for the upcoming smart cities about requirement of affordable housing.

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Matha As religious institution

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Akshay Wayal, Smt.Kashibai Navale College of architecture, Pune University, India

Abstract:--

India has a rich tradition of education right from the ancient period .A feature of Hindu Civilization is that it has been molded and shaped in the Course of its history more by religious and then by political and Economic influences. Our knowledge of the Indo – Aryan is derived from the Vedas .The education system in India come from the Vedas and their culture. Four major Hinduism modern currents are Vaishnavism (Vishnu), Shaivism (Shiva), Shaktism (Devi) and Smartism (five deities treated as same). Hindu education system developed and survived due to concept of Matha and various other religious institute established by Shankaracharya in four corners of India. This concept of religious institute establishments in medieval period helped, to survived Hindu religion in Maharashtra.

Maharashtra is a land of saints and Gurus where everyone spread the importance of religion and its values in various forms, in medieval period the Matha concept proven the importance of religious education.As this is a living heritage, it is still in continuation. Various patrons are taking the education system at higher levels. But in modern urban context the new needs and expansion are neglecting the importance of built heritage.

Key words:--

Religious Education, Patrons, Vedic Education System, Religious Institutes

The Anix Framework to adopt the Next Generation Software Architecture Style (Microservices) across the organization

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Dr. Sachin Bojewar, Vidyalankar Institute of Technology, Mumbai, India

Abstract:--

Today, companies, big and small alike, are engaged in a faster than ever race to be the first. You have to be the first to adopt a new technology, new architecture style, the first to innovate, the first to launch a new product or service. Therefore, companies have to make sure that the customers can easily access their services through all digital channels and that their applications are scalable, reliable and easy to deploy. As a response to these requirements, many companies moved away from their monolithic systems which are developed using old architecture style that served them well for many years to microservices as a NextGen software architecture style.

Microservices are an important software trend and one that can have profound implications not just on the enterprise IT function, but the digital transformation of the entire business. Microservices (Next Gen Style) vs monolithic (Old) architecture represents a fundamental shift in how IT approaches software development.

Therefore, adopting Next Generation Architecture style (microservices) is just like adopting a change across the organization. This is complex, challenging task across the organization.

Hence, this paper proposes the effective and disciplinary framework called as Anix which provides step by step approach and decision making to adopt the Next Generation Software Architecture Style (Microservices) across the enterprise. The proposed framework recommends how to build Microservice health of the organization to deliver the better performance.

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Effective Methods to Detect Pothole on Road

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Abstract:--

Most of the countries in the world are suffering from inadequate road conditions for various reasons. Highest number of causalities are by the road accidents caused due to poor road conditions and as well impacting the life's of daily travelers. A maintenance and monitoring system for the roads, which guides to detect the defacement of the roads surface before the conditions starts to deteriorate, can help upheld the quality of road and ensure road safety. But the developing countries are unable to afford high cost systems for road monitoring and maintenance. In order to overcome this problem we proposed and designed low-cost pothole detection methods in which one method is purely software-based and the other one is hardware and software integration. In fully software-based approach we developed an application which detected the horizontal and vertical acceleration along with the GPS locations. In hardware-software integrated method we used Raspberry-pi to process our information collected through accelerometer and GPS. The data collected through both the methods are processed and potholes are detected using a developed algorithm. The areas detected with potholes are put on the map with the help of the location collected by the GPS. In this paper, we developed methods to detect the potholes and plot them on the map and compared both the methods to obtain maximum efficiency.

Keywords:--

Pothole detection, GIS applications, GPS, GIS mapping

Survey on Life Estimation of Composite Humidity Sensors Using Different Artificial Intelligence Techniques

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Dr. Archana V. Potnurwar, Department of Information Technology, PIET, Nagpur, Maharashtra, India

Ms. Meeta A. Kukde, Department of Information Technology, PIET, Nagpur, Maharashtra, India

Abstract:--

A humidity sensor is employed to sense and measure the ratio of humidity of air. A replacement System has been fabricated using environmental pollutants like lampblack and zinc oxide, and it acts as a humidity sensor. For nature confirmation, characterization is performed. To verify the surface roughness Complex impedance spectroscopy (CIS), infrared spectroscopy (FTIR), X-ray diffraction (XRD) and scanning microscopy (SEM) are used. The lifetime of the fabricated humidity sensor is calculated by life testing. An intelligent model is meant using AI techniques, including the synthetic neural network (ANN), fuzzy inference system (FIS) and adaptive neuro-fuzzy inference system (ANFIS).The range of excellent composite humidity sensors is 30–95%.

Keywords:--

Composite material, Artificial intelligence, humidity sensor, life testing, SEM

Deformation Analysis of Pneumatized Sphenoid Bone Caused Due to Elevated Intracranial Pressure Using Finite Element Analysis

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Abstract:--

In earlier days of technology, it was not possible to understand the nature of complex biomedical problems and were only left to clinical postulations. With advancement in science today, we have tools like Finite Element Modelling and simulation to solve complex biomedical problems. This paper presents how ANSYS WORKBENCH can be used to study deformation of pneumatized sphenoid bone caused by increased intracranial pressure. Intracranial pressure refers to the pressure inside the skull. The increase in the pressure above the normal range of 15 mm hg can lead to serious conditions due to developed stresses and deformation. One of the areas where the deformation is suspected to occur is Sphenoid Bone. Moreover, the varying degree of pneumatization increases the complexity of the conditions. It is necessary to study deformation patterns on pneumatized sphenoid bone model at elevated intracranial pressure. Finite Element Analysis plays a major role in developing and analyzing model and give quantitative results.

Keyword:--

Intracranial Pressure, pneumatized sphenoid bone, deformation, Finite Element Analysis, FEA

Methodology for a Planning and Scheduling of a Construction Project Using Project Management

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Abstract:--

Planning and scheduling are the major requirements of the construction projects. Now a days the major construction projects are facing problems due to lack of perfect planning, scheduling and resource allocation. In order to overcome these problems we choose an advanced software called PRIMAVERA P6. The wide acceptance of this software particularly in industries of metropolitan cities has made easily handling the large-scale projects by project managers effectively. Thus, it results in optimization of resources like time, cost, manpower and machinery so as to achieve a quality product that is also economical. In a complex project where large number of activities are performed at different places, different agencies and sub-organizations, with each having its own scheduled targets. Where, a small delay in the critical activity can affect the many schedules. Finally, it reduces the risk and delay of the work of the projects. This software gives better quality of construction management process and easily understanding results for the successful project completion

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Customer Experience and Customer Loyalty in Indian Telecom Industry – An Empirical Investigation

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Abstract:--

Technology is primarily changing the way that consumers interact with organizations and making purchases. Growing number of organizations with eclectic array of choices has made today's industry more combative and competitive than ever before. Competition has encouraged the organizations to become more customer-centric. Building and maintaining strong base of loyal customers is often considered as the key driver for organizational growth and success. The customers having extraordinary experience with the organization and its offerings are more likely to exhibit customer loyalty. Customer experience has emerged to be the most powerful marketing tool to raise and rear customer loyalty. Now a days, organizations across the industry are concentrating on creating a encouraging customer experience for their development and growth by building customer loyalty. The study is undertaken to explore the determinants of customer experience and its impact on customer loyalty in Indian telecom Industry.

Index Terms:--

Customer Experience, Customer Loyalty, Indian Telecom Industry, FactorAnalysis, Multiple Regression Analysis.

Analytical Survey of Acoustical Material's VOC Emission and it's Installation in Auditorium

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Abstract:--

Human being is a social animal and from the ancient times, gathering spaces are playing an important role in our society. Indoor and outdoor spaces were built for social gatherings like open air theatres, multipurpose halls, auditoriums, religious places like temples, Mosques, Churches etc.

Auditorium is a large building or hall used for public gatherings, stage performances or typically speeches. In auditorium there is need to get acoustical treatment properly. Basic acoustic criteria for all types of auditoriums are the same. It must have low ambient noise level from external & internal source, provide appropriate reverberation time, Avoid echoes, flutter etc. To full fill these criteria appropriate acoustical material for floor, ceiling & wall is necessary. Contemporary acoustical materials, paints & adhesive use for auditorium emit some amount of VOCs (Volatile Organic Compounds). Long term exposure to VOCs in the indoor environment can contribute to IAQ (Indoor Air Quality) related problems. High VOC content materials cause illness and decrease occupant productivity. It is essential to study VOC emission of different contemporary materials and suggest appropriate materials for floor, ceiling and wall of auditorium. In this paper, Acoustical materials along with VOC emission, Absorption coefficient for different frequencies & installation techniques have studied & analyzed various types of materials and installation techniques can be used for floor, wall & ceiling of auditorium.

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Methodological Issues in Social Entrepreneurship Research: Exploring Aspirations Behind Social Entrepreneurship Research and Addressing The Methodological Issues

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Abstract:--

The aim of the study was to explore the aspirations that drive social entrepreneurship and the methodological issues during the exploration. The methodology used was grounded theory to define a theory (or framework) that would define the factors. In the process, the methodological issues were addressed as well. The findings of the study include the crucial factor behind social entrepreneurship being the vision for the society (or community or people) and betterment for them. The implications could be for the researchers who would encounter issues in this methodology being used for exploring the aspirations behind social entrepreneurship and the value lies for the researchers that might use a different or same methodology for further research into the same area. The limitation of the study was the validity of grounded theory being used as the methodology.

Keywords:--

Social entrepreneurship, aspirations, methodology, methodological issues, vision for society

A non-linear dynamic controller for differential drive mobile robot trajectory tracking

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Abstract:--

Mobile robots are commonly used for differential drive because of their simplicity, ease of control and flexibility. In this manuscript, the mathematical model of differential drive mobile robot was derived. This paper presents a nonlinear dynamic controller to force the robot follow the path that created depends on the application taking into consideration the wheels ' kinematics, actuator dynamics and rolling resistance. Controllers were designed to track the trajectory smoothly. At first, the ideal estimations of linear and rotation speeds are created considering just the kinematic model of the robot. To begin with, these values are handled to represent the robot's dynamics, consequently creating the linear and rotation speed orders gave to the actuators. There have been various trajectories generated similar to real-life scenarios. Also presented are simulation and experimental results showing the great performance of the designed trajectory tracking controller. The simulation results obtained with the use of Matlab rev2018a.

Index Terms:--

Mobile robot, wheeled robot, Dynamic Modelling, Nonlinear control

Impact of internet shutdown in J&K Media

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Abstract:--

Jammu and Kashmir (UT) has witnessed a major political shift since 1947.At certain moments the government puts shutdown on the most important platform across the world i.e Internet across the union territory of J&K to avoid misinformation and disinformation .It does not only affect people in terms businesses, education, health, services, banking, marketing etc. but also affects the major communication backbone for any democracy like media houses. As in today's world everything is dependent on Internet because of digitalization of every record and use of applications, likewise media is transformed from traditional media to digital media So if there is no internet there is no media This paper highlights the need of internet in the digital media in Jammu and Kashmir (UT) and the difficulties faced by the media during frequent internet shutdowns in Kashmir valley.

Keywords:--

J&K, government, Internet, media and communication

Improvement of Carbon Black Material and Reduction of Tire Rolling Resistance for Benefits of Green Environment

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Abstract:--

Carbon black is the major filler used in rubber compounds. The extent of carbon black in tire compounds is of the order of 60-70 phr (parts per hundred) this large amount of filler leads to filler-filler interaction and results in extensive hysteresis losses. In spite of numerous efforts put forward to replace carbon black partly by nano silica the efforts were not very fruitful because all the parameters needed to be satisfied could not meet the desired criteria. Therefore, of late there is a change in strategy of using carbon black itself as the key filler but in a modified form that will reduce the filler-filler interactions. The impact of filler on rubber compound properties is greatly influenced by its dispersion and distribution nature into the rubber matrix which is greatly dependent on the affinity of filler towards the rubber molecules. Filler with improved affinity towards rubber molecules leads to higher filler -rubber interaction resulting improved filler dispersion and reduce the propensity of filler network formation in the rubber matrix. As low filler-filler interaction and high filler-polymer interaction of modified carbon black results lower extent of filler network, lower extent of hysteresis energy is lost on application of cyclic deformation on the rubber compounds. Thus, tire made up with such types of rubber compounds would have lower hysteresis energy loss during service and would lead to lower tire rolling resistance.

In the present research work an attempt has been made to functionalize carbon black by treating with benzyl tributyl ammonium chloride for enhancement of carbon black interaction with rubber molecules. Such treatment causes improved dispersion of carbon black and reduces the inter-aggregates interaction of carbon black in rubber matrix. The compounding of benzyl tributyl ammonium chloride treated carbon black was carried out with natural rubber system as well synthetic rubber system such as styrene butadiene rubber system. It is observed that due to reduction of re-agglomeration of carbon black aggregates the filler - filler interaction was reduced significantly, leading to lower Payne effect and lower hysteresis loss. As lower hysteresis loss at 60-70oC temperature of rubber compounds is a measure of tire rolling resistance, thus functionalization of carbon black by benzyl tributyl ammonium chloride results lowering of tire rolling resistance and reduce the emission of greenhouse gases by vehicles benefiting the environment.

Keywords:--

Carbon black modification, filler-filler interaction, dispersion, hysteresis, rolling resistance

"Study of Coscinodiscus Phytoplankton diversity of Tarapur and Gholvad coast of Maharashtra"

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Abstract:--

Diatoms were collected for a period of 2 years from June, 2016 to May 2018. Tarapur is 115 km North of Mumbai at Latitude: 19.850N Longitude: 72.700 E latitude. Tarapur atomic Power Station is 2 km from this site. Gholvad is situated 140 km North of Mumbai at 20°5'31"N Longitude 72°43'57"E Latitude.

In all 14 species of Coscinodiscus were reported from both coasts.

Keywords:--

Diatom, Phytoplankton, Tarapur, Gholvad, Centrales, Pinnales

Heavy metal removal by using different Agricultural waste Adsorbants

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Dr. Vidya. N. Patil, Associate Professor, AISSMS COE, Pune, India

Abstract:--

The heavy metals are most harmful pollutants of the chemical properties and are particular concern with due to their toxicities to human. Now a day the agricultural waste has been used as an option for costly methods to remove heavy metals from water. Heavy metal which is highly toxic to human, plants, animals and to the environment which causes effects like pigmentation, keratosis, cardio vascular disease, diabetes, lung and bladder cancers. Agriculture wastes as adsorbents including rice husk, sugarcane basse, wheat bran, and sawdust, some of the modified absorbents show good adsorption. The paper present reviews about various techniques are followed and research efforts being made for removal of heavy metals from water.

Keywords:--

Adsorption, Agricultural Waste Adsorbents, Industrial Waste Water, Heavy Metal, Toxic Waste Material, Water Purification

Coconut Oil Based Low Temperature Hair Oil Formulations: A Review

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Abstract:--

Coconut oil is natural oil consisting of the triglycerides of low molecular weight saturated fatty acids as major fatty acids. Thus they are penetrated easily in to the hair structure preventing harmful surfactants like low molecular weight sodium lauryl sulfate used in shampoos to enter inside the hair follicle. This oil prevents hair protein loss apart from imparting other qualities of hair oils of MUFA, PUFA glycerides and mineral oil. PUFA oils require slight heating to penetrate hairs & scalp. The qualities of preventing water evaporation, reducing friction while combing and giving glow to the hairs are provided by other types of oils also. There is a problem of coconut oil's solidification in winter at about below 200C temperature which renders it difficult to apply on hairs & to sort it out the market is flooded with the popular brands of coconut oil based hair oils for winter use supplying coconut oil blended with the major proportion of cosmetic grade light liquid paraffin oil. Diffusion of vegetable oils in hairs is superior to mineral oil which does not penetrate in hairs or scalp. Thus for low temperature use the modification of coconut oil is required without adding mineral oil by bringing its solidification point (S.P.) below 50C. For lowering S.P. the literature suggests the uses of methods such as fractionation and re-fractionation of fat; fat splitting, crude fatty acid distillation & fractional distillation and re-esterification of lower molecular weight fatty acids; de-hydrogenation of fatty esters; trans-esterification, inter-esterification & esterification. Trans-esterification, Interesterification and Esterification processes by chemical or enzyme methods are economical and easily adoptable. Also discussed are other hair oils based upon their fatty acid compositions and nutraceuticals benefits. The use of some important essential oils containing bio-active components such as esters, lactones, alcohols, aldehydes, ketones for therapeutic uses like antifungal, in aromatherapy, for respiratory relief and hair growth in base oils are briefly detailed along with the outlines of methods of preparation of hair oils such as direct boiling, paste and cloth pouch. The essential oil enters in blood by messaging being lipid soluble, by inhalation due to volatile bio active components in it, by oral ingestion (non toxic). Tocopherols, tocotrienols, polyphenols, carotenoids and vitamin A, phytosterols, squalene etc can be ingested to the body by hair, skin application and orally in some cases.

Keywords:--

Nutraceuticals, Interesterification, Low temperature hair oil formulations, Trans-Esterification, Solidification Point, Therapeutic uses

Landslide Disaster Management: Need for Effective Infrastructure Development in Hilly Areas

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Akshay Wayal, Shri J.J.T. University, Rajasthan, India
Ajinkya Niphadkar, Shri J.J.T. University, Rajasthan, India

Abstract:--

Development of physical infrastructure is the most critical issue for sustainable future growth of the country. Infrastructure is basic organizational and physical structure needed for the operation of a society or the services and facilities necessary economical functioning. Disaster management is the important factor to be considered for any planned development. Changing environmental conditions are adding the risk of disaster which need to focus on reducing vulnerability in the context of development efforts.

Landslides, as one of the major natural disaster, account each year for enormous property damage in terms of both direct and indirect costs. Landslides lead to the devastation of the infrastructure, including the destruction of buildings, and significant deformation of arable land and natural changes. In hilly areas, the unplanned and insecure developments is the one of the triggering factor for the incidences of landslides which will result in huge losses with adverse impacts on the society as well as environment.

With the increasing demand of infrastructure development with growing population and changing land use pattern, there is need for developing appropriate framework for landslide hazard management to mitigate Social and economic losses with effective planning and management. The paper focuses on the introduction of disaster Management and mitigation of landslide disaster at the hilly areas.

Keywords:--

Infrastructure development, Disaster, landslide, Management, Mitigation

Innovative Healthcare Policy in Russia: "The Strategy for the Development of Medical Sci-ence in the Russian Federation until 2025"

Yuriy Yu. Shvets, Institute of Control of Science V.A. Trapeznikov RAS, Financial University under the Government of the Russian Federation, Russia

Sergej Naumov, Russian Foreign Trade Academy (RFTA), Moscow, Russian Federation, Russia

Anna Martishina, Russian Foreign Trade Academy (RFTA), Moscow, Russian Federation, Russia

Abstract:--

The article describes the features of state policy in public healthcare, the features of the development of medical science, the problems of medical science for the period 2011-2019, as well as the strategy for development of medical science in Russian Federation until the year 2025 and the attainment of the established goals.

Keywords:--

Medicine, healthcare, biopharmaceutics, diagnosis, treatment, vaccines, modernization

Energy Optimization in Cluster Based WSN Using Modified Hybrid (MH-AODV) AODV protocol

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Abstract:--

Energy is the scarcest resource in the network as the nodes are battery driven. The applications of WSN are run without human involvement throughout the time since sensing area in all applications are harsh and remote. Researchers all over the globe put their effort for minimizing the energy consumed by each Node so that the overall energy of the network area can be preserved and keep the network alive as long as possible. In our proposed work the features of TEEN, LEACH-C and AODV[1] protocols are combined to form a Modified Hybrid protocol named as MH-AODV Protocol which consumes less energy, reduces number of transmissions and finds a optimum path[2] for data transmission. The results are implemented using NS2 simulator and are compared with standard AODV protocol which shows the proposed method give better results then existing protocol.

Key words:--

Clusters, AODV Protocol, cluster head, Network area, Amplification

Evaluation and comparison of yield, biological efficiency and nutritional attributes of Pleurotus sajor caju cultivated on oat meal based agrowaste substrate organically supplemented with garbanzo powder and chemically with yeast extract

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Abstract:--

Pleurotus sajor caju mycelium converts the cellulose and lignin contents containing wheat straw substrate into edible and nutritive fruit body commonly called as "Oyster mushroom". In the current studies, *Pleurotus sajor-caju* was cultivated on the agro waste wheat straw substrate organically supplied with high carbohydrate, balanced amino acid, unsaturated fatty acid lipid, trace minerals, vitamins and photochemical enriched oatmeal. The domestically used Garbanzo powder and yeast extract highly rich in protein were also examined and compared as supporting biological and chemical supplements respectively. Biological efficiency, yield and moisture content was found to be the maximum on organic combinations of 5 % oat meal , 15 % Garbanzo powder and inorganic combination of 10% oat meal , 10 % Garbanzo powder supplemented 80 % wheat straw. The composition of fruit bodies varied in these combinations from 21~25 g/100g of protein, 41~46g/100 g of carbohydrate, total lipid 3 ~4 g/100g, 8~9 g/100g of crude ash, 22~26 g/100g of crude fiber and moisture content 87-90%.

It was found that wheat straw (80%) organically supplemented with both oat meal (5%), Garbanzo powder (15 %) and chemically supplemented oat meal (10%), yeast extract (10 %) gave total average yield and biological efficiency of 1914 gm, 95.7 % in 23days and 1890 gm, 94.5 % in 22 days respectively as compared to 1866 gm, 93.3 % of wheat straw (100%) itself in 27 days. Conspicuously, the wheat straw substrate (80%) organically supplemented with either Garbanzo powder or yeast extract (20%) showed lower yield and biological efficiency of 1746 gm, 87.3 % in 24 days and 1718 gm, 85.9% in 25 days. This evaluation further suggests organic supplementation of wheat straw substrate with both oat meal and Garbanzo powder in optimized ration as better than individual supplement or chemical supplementation with yeast extract. The organic incorporation of wheat straw (80%) with both oat meal (5 %), Garbanzo powder (15 %) as organic supplements may serve as strong source of protein, carbohydrate, lipid, minerals, vitamins and fiber for the accelerated growth with remarkable yield and nutritive value of *Pleurotus sajor caju* mushroom. The following current study highlights the importance of cheap, nutritious and optimized biological supplementation of agricultural wheat straw waste for the economic and effective production of more nutritive organic food to feed large population.

Index Terms:--

Garbanzo powder, yeast extract, Oat meal, wheat straw. Pleurotus sajor caju

The Miyawaki Technique: Afforestation solution for Mitigating Urban heat island effects by increasing native Green cover

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Abstract:--

In recent times, rapid urbanization and industrialization have been the major anthropogenic activities worldwide causing global climatic changes. Urban Heat Island (UHI) is being experienced in developing cities due to loss in green cover and increased concretization. It is predicted that with high rise-high density development, the magnitude of Urban Heat Island will further intensify. The Miyawaki technique of afforestation is opening up a new dimension in improving the urban green cover. It is an afforestation method developed by Japanese plant ecology expert, Dr. Akira Miyawaki, which allows forests to have improved carbon-dioxide absorption, better noise and dust reduction, greener surface area in much lesser time and area as compared to monoculture (traditional) plantations. The aim of this paper is to study the Miyawaki technique, its potentiality and usefulness in increasing the green cover in urban context. The objective of this research is to promote conscious urban growth with the focus being on growing sufficient urban green cover to curb the ill effects of urbanization on environment. A detailed analysis, case studies and literature review are the methodology adopted for this study.

Keywords:--

Miyawaki, Urban Heat Island, Afforestation, Urban green cover, Climate change

Automatic Equal and Continuous Water Distribution

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SamkitChhajed, Civil Engineering, All India Shri Shivaji Memorial Society's College of Engineering, Pune, India
Dr. Vidya Nitin Patil, Associate Professor, Department of Civil Engineering, All India Shri Shivaji Memorial Society's College of Engineering, Pune, India

Abstract:--

The distribution of water on earth surface is extremely uneven. Currently less than 3% of water on the surface is fresh; the remaining more than 97 % resides in the ocean. It is evident from the records of national and state governments that the infrastructure for equal water has been provided to India's urban and rural population in most of the states. Water scarcity is the major problem in many rural as well as urban areas in India. Urban water supply system is under tremendous pressure for supplying sufficient quantity of potable water to ever increasing population of India. There is tremendous need of pure water distribution with equal consideration to attain self-sufficiency. Equal water supply automation in water distribution system is to be implementing as per customer requirements in different lanes at villages as well as in urban areas. This automation is also possible in case of residential, industrial, commercial buildings, etc. It seems to be a beneficial method for minimizing water scarcity. In this paper we reviewed available water distribution systems, also designed and fabricated the automated systems for equal pure water distribution system.

Keywords:

Automatic meter reading, Communication technology, equal Water Distribution, Internet of things, Volve, water pipeline, Water tank

A Survey on University Recommendation System For Higher Studies

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Abstract:--

Recommendation system has become a requirement in today's world. Due to rapid increase in data and lack of learning in specific filed, people often halt selecting wrong item. Thus, there is a need of recommendation system which is trained to understand the customer's requirements and suggests them that suitable item which they need. Typically, recommendation mechanisms are used based on user's historical data and criteria to recommend films, songs, items, news articles, etc. It helps the customer to discover information and settle on right choices where they do not have the required learning to judge a specific item. This is making people's life much easier to get the right item quickly. This recommendation system is spread over large sectors right from education, entertainment, health, business etc. This paper explores the flow, types and uses of recommendation system in education. Also pros and cons of different types of recommendation system are discussed.

Keywords:--

Content Based Filtering, Recommendation System, Collaborative Filtering, Artificial Intelligence

Usage of Intelligent Software agents in selection of program and institution for education

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Abstract:--

Software agents have started proliferating the world in education, accounting and in society by helping people in information management, scheduling agendas and managing day to day activities. This paper presents an intelligent multi agent system used to choose the program and institution as per the requirements. As the number of programs and institutions have grown multifold it is practically not possible for a student to select the appropriate program and institute. This system presents a solution to help the students in selection in an intelligent way. The software agent acts as a bridge between the institute and the students. It also integrates the data from several ranking organizations to make the system more qualitative. This system also makes sure that the integrity of the data of the user and institute is preserved.

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On Demand Online Payment Security Using Unique Random Facial Gestures

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Abstract:--

In the current era of mobile communication and e-commerce everyone is using online payment application. The verification of payment applications is done through OTP of the registered mobile number. Quite a few investigations reported that fraudsters easily dupe the naive customers by getting their OTP or impersonating the customer, changing the registered mobile number, may take access by hacking the Smartphone. Currently the OTP deterrent also bypassed by requesting owner's bank to change phone number linked to owner bank account. As recent advancement in 5G network, we need strong development to improve societal curb. In the work presented the payment is verified by recognizing the registered face features, a kind of face recognition on action treated as safe and smart method. The proposed scheme presents an innovative method for design of online payment using on demand specific live face feature recognition. The technique elaborates best usage of real time image processing to secure transaction from online theft. An effort addresses the prioritization of differentiation between a still picture and moving image as a part of video processing that needs to be recognised. We aim to project solution for this problem using unique random facial gestures.

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Voice to Indian Sign Language conversion for hearing impaired people

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Abstract:--

Sign language is a natural way of communication for challenged people with speaking disabilities and hearing impairment. There have been various mediums available to translate or to recognize sign language and convert them to text, but the text to sign language conversion systems have not been developed much due to the scarcity of any sign language corpus. Our aim is to create a machine translation system that converts the input English Language into grammatically correct sign language. In Indian Sign Language ISL we do not have support for infection of the words. We apply stemming for conversion of words to their root form. All words of the sentence are then checked against the labels in the dictionary containing videos representing each of the words. For a word which is not matched in the dictionary, we look for synonym and replace it.

The proposed system is innovative as the existing systems are limited to only direct conversion of words into Indian sign language whereas our system aims to convert these sentences into Indian sign language as per grammar in real domain.

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Student success rate prediction in Massively Open Online Courses (MOOC) – Comparative Analysis of Machine Learning Models

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Abstract:--

Massively Open Online Courses are very much popular in today's technical learning platforms. These virtual learning environments have taken a toll over the classroom education. MOOC's provide video lectures, interactive quizzes, thread manageable forums, various assessments and reputable certifications. Various online platforms like udemy, udacity, plural sight, coursera, Lynda, EDX etc. are competing against each other among various streams of students, professionals, research scholars and educationalists. Success rate prediction in these MOOC platforms has been one of the major problem statements. It depends on daily activity of the learner, other features like static, dynamic and demographic features have to be taken into account for calculation of at risk student rates. Here concentration is given too much over daily number of clicks and number of sessions taken by the learner. In this paper, we focus on soft clustering technique known as Gaussian mixture model which is also an unsupervised Machine learning algorithm. This paper discusses formulating relationship between assignment submission rate and dropout rate. Probabilistic Gaussian mixture model is used to predict the dropout rate of students in VLE database. Results from this technique yields about 0. 835.F1 measure which holds promising value of student success rates.

Key Words:--

Online Courses, learning platforms, coursera, Lynda, EDX, Gaussian mixture, Machine learning

Optimal operating policy of multireservoir system using Jaya algorithm

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Abstract:--

The present study shows an efficient and reliable approach to derive the reservoir operation policies for multireservoir system by using Jaya algorithm. Evolutionary and swarm intelligence techniques have been successively used for optimization of multireservoir operation policy. These techniques are depends upon the optimization of algorithm specific parameters and common controlling parameters, instead Jaya algorithm uses common controlling parameters. Jaya algorithm is first implemented on a hypothetical multireservoir system, used by previous researchers. Jaya algorithm shows good results when compare with other techniques. To present practical utility, Jaya algorithm is applied to multireservoir Upper Godavari sub basin system in Maharashtra, India. The results obtained demonstrate that, Jaya algorithm is consistently performing better than the genetic algorithm and satisfying the 72% of total irrigation demand. Also, it is observed that Jaya algorithm yielding better quality solution with less number of function evaluations.

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Religion violence in Nigeria democratic Dispensation

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Abstract:--

Nigeria which is multi-ethnic and multi-religious in nature is faced with religious violence. Religion that supposed to be a unifying factor among several ethnic groups in Nigeria has turned out to be one of the catalysts that are causing destruction of lives and properties due to narrow-mindedness, misunderstanding, fundamentalism and fanaticism of religious adherents. Several political problems take on religious dimensions; manipulated by politics, poverty, illiteracy and ignorance in Nigeria. Violence based on religious affiliation and religious policies have indeed caused physical and psychological damage to several people thereby legitimising religious schism among Nigerians who simply have different religious affiliations. This upheaval threatens the national security of the country. Thus, study will make use of survey methodology in examining the effect of religious violence in Nigeria from 2015 to 2018 and intends to find out how religion which has been the bone of contention can bring peaceful coexistence.

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Design and Analysis of Variable Stiffness Shock Absorber using Electromagnetism

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Abstract:--

You must have heard about Audi's adaptive air suspension, it is an air suspension system with controlled damping which offers a wide range between smooth cruising and sporty handling. Depending on the speed and the driver's preferences, it automatically adjusts the ride height according to the road conditions. Audi does it using MR fluids in its dampers, which is why its exclusive and not everyone can afford it. So we have got something that we are been working on similar to Audi's controlled damper and it works fully independent of the driver. It works in accordance with the terrain it's traveling on and controls damping depending on the amount of forces coming on the tires.

We pneumatically pressurize the piston to compress the oil above in its compression stroke that generates an electric signal using a pressure switch. This electric signal is given to a programmed ECU which in turn runs the electromagnetic actuator that pulls the piston back to its original position in its retraction stroke.

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Highly Mechanized Paver with Dowel Bar Placing

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Abstract:--

One important measures of country's development is the status of its roads. India is abundant in natural resource but this situation can never be fully utilized by inferior quality and poorly maintained road system. India has the second largest network of roads in the world. It is, however, also known for its poor roads. One of the elements by which the public evaluates the quality of roads is the smoothness of pavements, for both the newly constructed and rehabilitated pavements (Indian highways April 2018).

Realizing the benefits of concrete roads, the Ministry of Surface Transport of India has approved considerable concrete road projects. High degree of evenness and better riding quality, together with long service life and minimum maintenance costs have made it popular surfacing material throughout the world. There is no doubt about the importance of obtaining improved pavement smoothness. Not only does it gives a better and safer ride, but also reduce the vehicle maintenance cost and is better able to sustain heavy traffic load. Nor it is an unattainable goal with research backed innovations in technology, equipment and materials offering a wide array options to choose from, the engineer is many steps closer to the perfect pavements.

So the path to the perfect, problem free concrete pavement is by no means a smooth one, given the tough standards tighter specifications on mat levelness being enforced today. Under the modern construction methodology, the utilization of proper equipment is also equally important. However the engineer has at his command a battery of modern technologies, innovations and automation in machinery like slip form pavers and all at the push of button. Slip-form paving techniques are now more widely used for laying concrete pavements. This has enabled pavements to be laid more quickly and more economically than in the early 1990's, when more traditional paving techniques were still in use.

In this paper, the highly mechanized technique of construction of concrete pavement, known as slip form paving has been addressed. Different stages and the critical factors during the paving operation are discussed in this paper. The comparative study of different type of paving techniques for concrete pavement is also highlighted in the paper.

Index Terms:--

Slip form Paver, dowel bar placing, trimming and leveling, confirming plate paver, oscillating beam type paver.

Protein Structure Prediction of Amino Acid Compositions Using Genetic Algorithm

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Abstract:--

The research upon genomic data and genomic science in the field of bioinformatics is folded into many times in the last few decades. In general bioinformatics is the Application of Computer aided technologies in the field of medicine and drug designing. Effective computer aided technologies may provide better and more accurate result in terms of large data sets which are also folded many times in the last two decades. There are various hard computing techniques and Soft computing technologies that can be applied in the field of bioinformatics by different researchers. Soft computing technologies like Artificial Neural Network, Fuzzy Logic, Genetic Algorithms and other hybrid soft computing technologies like swarm optimization, Ant Colony Network has a large application in the field of bioinformatics in which protein structure prediction is a major task of bioinformatics. Protein structure prediction is always a challenging task of bioinformatics which is very useful during drug design and medicine research. Proteins are the large molecules that contain different amount of amino acid composition and also differs one from each other due to its difference in their percentages. Protein Structure prediction is the prediction of three dimensional structure form its amino acid sequences and a Protein molecule may contain twenty different type of amino acid compositions. By the application of drugs and external agents the shape changes from time to time. This shape may contain α-helics, β-sheet and loops(coil). Genetic Algorithm is an application of machine learning which represent the behaviour of the system in the form of a metaphor of the processes. So the Genetic Algorithm can be applied in the field of Protein Structure Prediction to predict the structure and for crossover of different protein data sets. In this research we have taken 5IJN, 5A9Q which is collected from NCBI (National Centre for Biotechnology Information). We have applied Genetic algorithm for crossover between two data sets i.e. 5IJN, 5A9Q and also predicted the structure of the new pdb. More over we have focused upon the changes that occurs from time to time for this new data set in its α-helics, β-sheet and loops structures. It will helpful for the current drug researches and medicine researchers to design new drugs and medicines. We have also provided the simulation result for this purpose and it will be helpful for the current researcher working upon bioinformatics.

Keywords:--

Bioinformatics, Genetic Algorithm, Protein, pdb, α-helics, β-sheet, soft computing

Crypto-asset trading analysis

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Abstract:--

Initial coin offerings (ICOs) are a new method of raising capital for early stage ventures, an alternative to more traditional sources of start-up funding. Similar to the stock market the Crypto currency market has experienced a growth in various investing options for the investors. On the block chain one can trade crypto currencies with actual real-life assets and one can also invest in various fundraisers of startups for ICO's which can be traded for monetary value in the startup's environment. Investing in ICOs can be very profitable. Picking good token for investment requires careful research. We are building a software which helps to predict the prices of ICO's so that the investors can decide whether to invest in ICO or not. Since this is an emerging field there are no major applications or websites which provide consulting services for the crypto assets. We can access past data and use AI to forecast and predict future trends and advise investors accordingly.

Keywords:--

CBIR, DCT, Neural Network, Fuzzy classifier, CART

Comparative study of Spatial Hadoop and Geospark for Geospatial Big Data Analytics

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Abstract:--

Earth Observation (EO) has been constantly generating large amount of Geospatial data over the last few years which is used in resource monitoring, environment protection, and disaster prediction. The applications like Ground surveying, remote sensing and mobile mapping produces geo-spatial data. The growth of EO data has been a challenge in recent approaches for data management and processing. For Big data scenario Geospatial data are the major contributors. There are various tools for analysis of big data. But all the big data analytics tools can handle geospatial big data. The main aim of this paper is to do the comparative analysis of current two popular open source geospatial big data analytical tools i.e. Spatial Hadoop and GeoSpark which can be used for observing and processing the geospatial big data in an efficient manner. It has also compared the architectural view of Spatial Hadoop and GeoSpark..

Keywords:--

Earth Observation, Big Data, Geospatial Data, Spatial Hadoop, Geospark

Multiple Choice Question Answer System using Ensemble Deep Neural Network

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Abstract:--

A hybrid ensemble learning approach is proposed to predict answers to Multiple choice question using ensemble Long Short-Term Memory (LSTM)model , hybrid Long Short-Term Memory –Convolution Neural Network model (LSTM-CNN) model and Multilayer Perception (MLP) model. Firstly, by using LSTM model and hybrid LSTM-CNN model the dataset is trained to get the prediction on training data. Multilayer Perception is used to predict option to training dataset separately. The 8thGr-NDMC datasets are selected for model evaluation and comparison. The observed results demonstrate that the proposed ensemble learning approach performs better than some other single forecasting models.

Keywords:--

LSTM, CNN, MLP, Ensemble ,transfer learning.

Evaporative Air Cooler - A Review

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Abstract:--

Evaporative Air Cooler technology originated from the concept of air cooling with water media very long decade ago. The cool fresh air for domestic and commercial use can be provided mechanically using the air conditioning (AC). The use of AC equipment will increase energy consumption in conjunction with the increasing amount of carbon emissions released into the air atmosphere. In an evaporative air cooler air is cooled by evaporating water in the equipment. Evaporation of water requires heat, so energy or latent heat taken from the air molecules - so the actual temperature of the air drops. The amount of water evaporates increase with the increasing water temperature. Relative humidity increases with the increasing of water temperature and remains constant at the same water temperature reported by few researchers whereas cooling effectiveness increase with the increasing of air stream velocity. Evaporative cooler can minimize consumption of fuel and lower the pollutants in the atmosphere as caused by VCRS. The evaporative cooler performs very well in hot and dry climate. It was reported that the best evaporative cooling period commences in the month of May and finishes in September and minimizes energy consumption for the fresh air cooling with almost 80%. This review is aimed to evaluate the effect of temperature changes on the cooling medium using different cooling pads. In this review we have discussed the utilization of a desert cooler, its performance and drawbacks associated with them along with the results presented by various authors in this field. It is concluded from this extensive survey of literature that evaporative cooling is economical then the existing VCRS systems.

Index Terms:--

Evaporative cooling, water spray, alternate Cooling pads, energy efficiency

An overview on Json Web Token

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Abstract:--

In almost every organization where user sensitive data is available, security and privacy of the data plays a vital role. As far as computer science is concerned, it is just a game of saving data in unrecognizable format and accessible to authorized person. User sensitive data mainly includes passwords which are required for the sessions but need to be handled and stored safely.As storage of these information is overhead in database, Tokens are generated which handles sessions and also self contains user details. One of such widely used stateless token is Json Web Token. This paper deals with the introduction, working and algorithms of Json web token. Also pros, cons, hacking possibilities, Proper usage and security measures of JWT are discussed.

Keywords:--

Token, authentication, JWT , security, privacy, sessions, encryption

On Test Functions for Divergence-based Grey Wolf Optimizer

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Dr. Vinod Vaze, Shri. JJT University, Jhunjhunu, Rajasthan, India
Dr. Emmanuel M, Pune Institute of Computer Technology, Pune, Maharashtra, India

Abstract:--

Nature-inspired algorithms have captured the attention of the researchers in recent times. Due to the ease of implementation and the advancement in technology, these algorithms have found their niche in the field of optimization. Their applications span from the designing beam in civil engineering to the prediction of diseases in medical sciences. One such widely researched algorithm is grey wolf optimizer (GWO); which is based on the behavior of the grey wolves. This grey wolf optimizer has gone through hybridization and modifications as is natural in this domain. One such recently developed variant is divergence-based grey wolf optimizer (DGWO). This paper details the working mechanism of DGWO and presents the performance based on benchmark functions. For this, 23 well-known benchmark functions implemented in python are used. Seven of the functions are unimodal and six are multimodal and ten are fixed dimensional multimodal functions. The results for the test functions are presented by using 2D graphs. The results show that the newly developed DGWO works comparably well and is suitable for solving optimization problems.

Keywords:--

Divergence-based grey wolf optimizer, nature-inspired algorithms, performance, test functions

Coconut Oil Based Low Temperature Liquid Hair Oil Formulations with Ethyl Ester and Butyl Ester Modification

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Abstract:--

We have reported in this research work for coconut oil based low temperature hair oil formulations using coconut oil's Alcoholysis and Ester-Ester interchange or trans esterification with Ethanol & Butanol by interesterifying the coconut oil & Ethyl alcohol Esters, Butyl Alcohol Esters. Ethyl Alcohol and Butyl Alcohols were used to esterify the Coconut Oil in this work using Sodium Meth oxide Catalyst and Eversa Transform 2.0 Enzyme and Chemical Catalyst. The Sodium Meth oxide Catalyst catalyst used was 0.3% for trans esterification of the Ehtyl and Butyl Esters with Coconut Oil at 115ºC for 1.5 hours. The Ethyl Esters (E.E.) obtained had 0°C Solidification Point (S.P.) and Butyl Esters (B.E.) with (-2ºC) S.P. by Chemical catalyst (-2º C). Also by using the Enzyme Catalyst the obtained S.P. was found to be (-2ºC) for Ethyl Esters and (-5º C) for Butyl Esters respectively. On Esterifying with Coconut Oil in different ratios both E.E. and B.E. gave required S.P. of below 5ºC at optimum ratio, The physical properties of the products were analysed and compared with the market samples of the leading brands of the coconut oil based hair oils of winter use.

Keyword:--

Inter esterification (I.E.), Ethyl Esters (E.E.), Butyl Esters (B.E.), Solidification point (S.P.), Thermo Myces Lipozyme Immobilized (TLIM) enzyme

Instrumentation Electrode Configuration Signal Processing and Applications of Brain Computer Interfacing: A Review

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Prof. Ankita Agarwal, Hope Foundation's, International Institute of Information Technology, Pune, India

Abstract:--

Brain-Computer Interface (BCI) is a fast-emerging technology in which researchers aims to build a direct channel between the human brain and external electronic device. The methods used for this may be invasive (ECoG), or non-invasive (EEG, MEG, fMRI, etc.). EEG-based Brain Computer Interface (BCI) is used to scale the brain movement and convert them into control signals for monitoring and control. These systems are used to develop several applications like Limb Replacements for paralyzed or disabled people, Military Enhancement, Driving Safety, Games and Entertainment, Emotion Classification, etc. Though noninvasive systems have limitations in terms of ability to detect and measure electrical activity of small groups of neurons. However, they can be used for monitoring general cognitive state and brain activity for diagnosis of brain disorders and mental health issues. In this paper we are presenting the review on instrumentation, signal processing techniques, and the applications of BCI.

Keywords:--

Brain-Computer Interface, BCI, BCI Instrumentation, BCI Applications

Civil Engineering Structure Safety with Health Monitoring

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Mr. Divij Ruturaj Tekawade, AISSMS College of Engineering, Pune., India
Dr. Vidya Nitin Patil, AISSMS College of Engineering, Pune., India

Abstract:--

The safety measures related to civil engineering structures with respect to age of the structure, structural damage, climatic conditions like flood, heavy rains, earthquake, etc. is the prime role of the concerned authorized engineers. Automatic alarming, monitor and continue assessment is becoming the most important task along with time based structural auditing. The construction sector has to set particular limits along with continuous monitoring with alarming system before death causes. Also the durability of structures depends largely on the use, but the environmental conditions based on their geographical location also play a major role on the service life of any structure. Depending upon the type of structure, the monitoring measures are varying. Incidences with death and casualties are experienced before in case of public structures, steel bridges, reinforced concrete bridges and masonry bridges. If structure is reinforced concrete bridge, the condition of reinforcement is crucial, particularly reinforcement layers closer to the surface are easily affected by corrosion. If structure is steel bridge rusting of column ends or joints at different connections is serious issue.

In this paper review of the collapse incidences in India along with the current available structural health monitoring system about different type of structures is discussed. RFID based embedded different types of sensors and working of these with respect to structure health monitoring is discussed.

Keywords:--

Civil Engineering structure collapse , embedded sensors, RFID , Structural health monitoring

Open Datasets: Need of hour

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Abstract:--

The term open data is a type of data set which is open for access to everyone, not only open but it is available for access, reuse, modification and sharing. Governments, agencies and independent organizations have contributed on large scale and opened the floodgates of data to create and share more and more data for free and for easy access. As data skills are increasingly valuable in around every job market and in a growing professional field one just cannot simply avoid data. It is not just for big businesses but for every researchers and academicians need of data is every now and then. This research paper provides a brief introduction to the open datasets and the seven laws of universal data. Thing of relief is that every time you need not have to collect data on you own to analyse it. Tons of public data sets are available open and free to access. This paper aims to understand datasets along with its importance and provides a list of most used and popular open datasets. A comparative on open dataset and open data repository is also included in the study.

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Brain Tumor segmentation with antialiasing impact filtration using Modified Finite Impulse Response Linear filter

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Abstract:--

The field of medical imaging advances so rapidly that all of those working in it, scientists, engineers, physicians, educators and others, need to frequently update their knowledge in order to stay abreast of developments. While computer engineering play a crucial role in this, more extensive, integrative research of image processing that connect fundamental principles and advances in algorithms and techniques to practical applications are essential.we focused on development of new medical imaging techniques which can serve the medical society.

Treatment protocols for malignant tumors generally call for surgical removal followed by tumor-bed irradiation. Irradiation ideally affects the tumor volume while limiting damage to surrounding normal tissues, this required accurate determination of 3-D treatment volumes.

Accurate tumor segmentation provides doctors with a basis for surgical planning. Moreover, brain tumor segmentation need to extract different tumor tissues from normal tissues which is a big challenge because tumor structures vary considerably across patients in terms of size, extension, and localization.

We need methodology to reconstruct image to refine boundary of objects present image. Proposed methodology shows clear visibility of tumor growth along with anti-aliasing element which eliminates blood, plasma, fluid impurities and focuses over brain tumor affected area and assists the surgeon during actual surgery

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Enhancement of Small Signal Stability of 3 machine 9 bus system with Robust Power System Stabilizer

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Abstract:--

The power system involves low frequency oscillation due to disturbances; these low frequency oscillations of the system are associated to the small signal stability. The anomaly of the synchronous machine under small perturbations is delved into by examining the case of three machine nine bus system. The system is predominant to inter-area and local mode of oscillations. These oscillations may sustain and lead to system separation without proper damping of the oscillations. The low frequency oscillations have adverse effect to the maximum power transfer and power system stability. Complexity and challenges of power transfer increases with the increase of number of buses and generators of the system. The aim of this paper is to project the damping in the three machine nine bus system with robust power system stabilizer. The use of robust power system stabilizer reduces the oscillation time comparing to conventional techniques.

Keywords:--

Power System Stabilizer, low frequency oscillations, Robust Power System Stabilizer, WSCC model

Machine Learning Approach for Lung Cancer Detection And Stages Prediction

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Abstract:--

Diagnosing the patients correctly and administering treatments are a major challenge for medical practitioners as critical decisions are made based on diagnosis. The proposed framework is intended to identify lung malignancy in untimely stage in two phases. The proposed framework comprises of numerous steps, for example, image extraction, pre-processing, binarization, thresholding, Division, feature extraction, and neural system identification.

In our system we will develop Lung Cancer detection system based on machine learning and neural network. It decreases the chances of getting harm to human by early detection of cancer. In recent past, there has been a lot of progress on data mining and machine learning techniques to predict the various types of diseases.The proposed model is a tool which will take input as the CT scan images and it will predict the possibilities of the disease and its stages. Thus we will try to provide a direction to medical practitioners to make quick intelligent clinical decisions which can help in prophylaxis of the disease and thereby reduce any treatment costs.

Keywords:--

Convolutional Neural Network (CNN), Computed Tomography (CT), Support Vector Machine (SVM), Lung Cancer

Role of I.T (Information Technology) on Employee Efficacy in Selected Banks in Jammu & Kashmir (J&K)

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Abstract:--

This study required to tender a better, clearly understood perspective on the effect of Information Technology (IT) on the employee efficacy in the selected banks in J&K. Descriptive research design was chosen as it permits congregation of data from the respondents in natural settings. The target population of interest was 440 employees in the three selected banks in J&K. A Probability sampling technique was employed using stratified random sampling to sample 140 employees to participate in the study. The data which was obtained by use of questionnaires was collated to determine the quality and sturdy in analysis and then analyzed using SPSS. Regression analysis was used in assessing the link existing between predictor variables and the employee efficacy the dependent variable. The study established that I.T has a positive as well as statistically important influence on employee efficacy of the banks. From these findings, it is obvious that an increase in the application of I.T results to increased employee efficacy. The study recommends that the commercial banks in J&K should increase their pioneering capability due to the business dynamics. Therefore, in order to support and to uphold an intensive capability, innovation ought to be among the main precedence areas of top management level executives of the commercial banks in order to enhance employee efficacy.

Keywords:--

Information Technology (IT), Employee efficacy, Mobile banking, Internet banking

Study of the Total Polyphenols and Antioxidant Activity of Stingless Bee (Apis Mellipodae) Honey from Some Woredas of South Wollo Zone, Amhara, Ethiopia

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Abstract:--

The objective of this study was to evaluate the TPC and antioxidant activity of the stingless bee honey samples. Stingless bee honey is a good source of natural antioxidants and used to treat different diseases such as diabetes, asthma, sinus, cardiac diseases, wound healing, hypertension, tonsillitis, and also have beauty, fitness and health aspects for men and women. To the highest yields of TPC and antioxidant activities, temperature (550c), time (60 min) and aqueous acetone (50%) were the optimum conditions to this study. Total phenolic content (TPC) was assayed based on the redox reaction between FCR with phenolic compounds by forming a blue complex in basic medium and measured the absorbance using UV/Vis Spectroscopy. Percentage radical scavenging activity (%RSA) of the stingless bee honey extracts determined using the DPPH• radical scavenging method whereby IC50 values were determined from the plotted graph of scavenging activity against the concentration of the sample extracts. Analyses revealed that the TPC of stingless bee honey samples from Tenta, Wore-Ilu, Jama, and Debresina was (320.44±8.48, 372.88±5.91, 464.02±8.70, 507.70±10.01 mg GAE/100g) respectively. Similarly, the percentage free radical scavenging activities of the extracts of Tenta, Wore-Ilu, Debresina, and Jama, was (71.90±0.36, 74.36±0.47, 78.67±0.48%, 78.98±0.23,) respectively with the corresponding ascorbic acid equivalent per 100 g of 34.32±0.22, 27.87±0.38, 30.14±0.49, and 33.51±0.49 mg AAE/100 g. The IC50 values of the stingless bee honey extracts of Jama, Debresina, Wore-Ilu, and Tenta, was (10.83, 14.05, 15.29, 16.39, mg/mL) respectively. In conclusion, the TPC and scavenging activity of Jama and Debresina were highest than Tenta and Wore-Ilu.TPC and %RSA was strongly correlated.

Keywords:--

Stingless bee honey, polyphenols, Antioxidant activity, TPC, DPPH free radical scavenging activity

Li Fi Technology

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Abstract:--

As we all know, today it is an era of digitalization. In such environment mobiles, internet these are becoming the basic necessity of life. It is very important to have knowledge about all these things. Now-a-days various new technologies are developing to make communication more easier, world is coming closer and closer due to globalization. By taking all these things in account a latest technology is going to develop for wireless communication and that is nothing but the 'Li Fi'.