



12th World Conference on Applied Science Engineering
and Technology
(WCASET – 18)

Dubai, United Arab Emirates
21st- 22nd September' 18

Institute For Engineering Research and Publication

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IFERP-Explore

Editorial:

We cordially invite you to attend the **12th World Conference on Applied Science Engineering and Technology (WCASET - 18)** which will be held at **Flora Creek Deluxe Hotel Apartments, Dubai Creek - Dubai - United Arab Emirates on September 21st, 2018**. The main objective of **WCASET-18** is to provide a platform for researchers, engineers, 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 July 2018, the Organizing Committees have received more than 210 manuscript papers, and the papers cover all the aspects in Electronics, Computer Science, Information Technology, Science Engineering and Technology. Finally, after review, about 42 papers were included to the proceedings of **WCASET - 2018**.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of **WCASET 2018**. 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.



Editor-In-Chief
Dr. Nalini Chidambaram
Professor
Bharth University

Acknowledgement

IFERP is hosting the 12th **World Conference on Applied Science Engineering and Technology** this year in month of September. The main objective of WCASET-18 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.



Er. R. B. Satpathy
Director
Institute for Engineering Research and Publication (IFERP)

12th World Conference on Applied Science Engineering and Technology– 2018

Conference chair



Dr. Chithirai Pon Selvan

*Program chair-Engineering
Curtin University, Dubai*

BIOGRAPHY:

Dr. Chithirai Pon Selvan completed his Bachelors in Production Engineering (1996), Masters in Computer Aided Design (2004) and Ph.D. in Mechanical Engineering (2013). He has more than eighteen years of teaching experience and one and a half years industrial experience. Over the years, he has taught various courses for under-graduate and post-graduate students of Mechanical Engineering and guided them in their project work.

Dr. Selvan has published more than sixty research articles in international journals and has presented papers in many conferences in India, UK, Thailand, Malaysia, Italy and UAE. He has been invited and honored as key note speaker, session chair, resource person and technical committee member in various conferences around the globe. He has organized/attended many international workshops, conferences, faculty development programs, seminars, exhibitions etc. He is also in the editorial board of more than thirty international journals. His research interests are in the area of manufacturing technologies, particularly non-traditional manufacturing techniques. He is a well-known researcher in the field of Abrasive Waterjet Cutting Technology. He has also evaluated Ph.D. theses in Mechanical Engineering of various Universities. He is a member of “Society of Automotive Engineers (SAE)”, “American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)” and “Indian Society for Technical Education (ISTE)”. He joined in Amity University, Dubai in November 2015 after serving seven years at Manipal University, Dubai where he worked as Associate Professor in Mechanical Engineering.

12th World Conference on Applied Science Engineering and Technology– 2018

Keynote Speaker



Dr. Tadahiro Kishida

*Assistant Professor,
Khalifa University, Dubai*

BIOGRAPHY:

Dr. Kishida holds a Ph.D. from the University of California, Davis. He has been an Assistant Project Scientist at the University of California, Berkeley; Assistant Professor at Chiba University in Japan; and Engineer at URS Corporation in Oakland. He is a professional engineer in the State of California. During his work at University of California in Berkeley, the project received the Excellence award in Structural Engineering by Structural Engineers Association of California.

12th World Conference on Applied Science Engineering and Technology– 2018

Keynote Speaker



Dr.Ebru Gunister

*Assistant Professor,
Khalifa University, Dubai*

BIOGRAPHY:

Dr. Ebru Gunister is currently an Assistant Professor of Mechanical Engineering at the Petroleum Institute (PI) in Abu Dhabi. Her main research interest is in the area of Polymer Composites with the focus on synthesis, characterization and mechanical properties of Polyolefin Composites. She also conducts general research in the area of materials and corrosion with applications to the oil and gas industry. She is the member of PI Materials and Corrosion Research Group.

Dr. Gunister has published numerous articles in refereed journals. She also delivered several presentations in international conferences and she is the author of a book chapter recently. Furthermore, she serves as a reviewer for reputable international journals in the area of materials science and engineering..

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WCASET - 18

**12th World Conference on
Applied Science, Engineering
and Technology**

**Dubai , UAE
21st September, 2018**

ABSTRACTS

WCASET - 18

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Development of a Non-destructive Method to Measure the On-Site Clamping Force of Torque Shear High- Strength Bolts

Hwan-Seon, KEPCO Research Institute, Daejeon, Korea

Abstract:--

High strength bolts are used for connection of steel structures, and these are mainly of the torque shear type, which are designed to fracture by shear force at a predetermined torque. Although the manufacturers specify the clamping load of high-strength bolts dependent on diameter, no method has been available for measuring the clamping force at the onsite, when the bolt is actually fastened. Thus, a nondestructive testing method was developed the first in the world, that can measure the clamping load when fastening the bolt to an actual steel structure joint. There are two key elements in this method: the algorithm that synchronizes the load displayed in the clamping force meter taken from the existing analog device and measures the amount of cumulative electric energy required by the electric torque wrench, which is used for fastening the bolts at the time of measurement, and the prototype of the test device that embeds this algorithm. The technique developed in this study achieved a reliability within 5%, with respect to the actual clamping load.

Keywords:--

Bolt, Tension, Current, Wrench, Torque

An Efficient Enhanced Algorithm to Diminish the Cyber Security Threats in Multi-Tenancy Cloud Computing

SheelaRini.A, Research Scholar, Avinashilingam Institute for Home Science & Higher Education for Women

Dr.Meena.C, Head, Computer Center, Avinashilingam Institute for Home Science & Higher Education for Women

Abstract:--

Cloud computing is considered as the hopeful standard for distributing IT facilities as computing benefits. Several industries like banking, healthcare and education are moving towards the cloud due to the effectiveness of services provided by the pay-per-use pattern based on the resources equivalent to process power used, transactions administered, bandwidth consumed, knowledge transferred, or storage space occupied etc. Cloud computing is totally in web dependent technology wherever client data is kept and maintained within the cloud provider's data center like Google, Amazon, Microsoft, Akamai, etc. Inadequate control over the data may procure several security concerns and threats which include data leakage, insecure interface, sharing of resources, data availability and insider attacks, which leads to cyber crimes in cloud environment. On the off chance that the organizations and clients are given web get to, they can get to their own records specifically from any side of the world. This innovation supports fruitful computing by coordinating information storage, processing and transfer speed.. In Cloud, security of information isn't ensured and even the information can likewise be gotten to by the third party. There is a need to Consequently, we have planned a protected document stockpiling framework with effortlessness, legitimacy and security. Nearly it is connected in everything which required giving consent to just affirmed approvals Consequently, we have planned a protected document stockpiling framework with effortlessness, legitimacy and security. Nearly it is connected in everything which required giving consent to just affirmed approvals on averting information release, warning for security mischance and security occurrence reviews. Cloud security needs to be enriched with the conventional methods like firewalls, Virtual Private Networks (VPN) and Security policies to get a carefully designed ripe administration from it. In any case, Cloud computing brings new difficulties, issues and dangers to the business. From many research it is observed that security is the main problem of cloud adoption. The dread of losing control of corporate information and the danger of data breaches in the cloud can possibly disturb the adoption of cloud services. Security issues must be addressed and new technologies must be produced in order to open cloud computing benefits. For retrieving the data in the cloud, clients need more security for guarding their data. Encryption and Hashing technique is being used in the cloud environment by carrying a key exchange process done with key encryption key and data encryption key to provide security. Also SHA3 hashing function is used for accomplishing data integrity and security in the cloud. This Proposed method looks in to an attack model based on threat model to overcome the Multi-tenancy situation. Additionally, resource allotment method will accomplish the balance between both the advantages gained from Multi-Tenancy and Security. To minimize the security threats and preserve the privacy, reliability and authenticity of data which is stored in cloud, Encryption and hashing techniques will be used.

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Consequently, we have designed a protected file storage system with effortless, legitimacy and security. Nearly it is connected in everything which required giving permission to just certified authorizations. In the database, the password is stored as a message digest. This sort of storing password should be carefully designed. The encryption procedure makes the data secure and it prevents clarity by unauthorized persons and furthermore it sets up a system to remove imposture. This system has been designed in such a way, if the one-way hash function gets cracked, it will lead to get the encrypted data alone. The usage of hash function makes impossible for any overlooked changes on data. After the deployment of RSA and SHA3 (Keccak) before Storage, the data becomes impervious to access or changes by any third party and to the capacity framework.

In this manner by creating a two factor security verification of data which is stored in cloud will be a protected environment for the multitenant users to protect their data from cyber crimes. This will help the clients information to be more secured in the cloud platform.

Keywords:--

Cloud Computing, Cyber Security, Multitenancy, RSA, SHA-3, Keccak

The Future of Prediction: Relationship between Google Searches and KSE 100 Index

Zainab Ashraf, University of Management and Technology, Lahore, Pakistan.

Nouman Sarfraz, University of Management and Technology, Lahore, Pakistan.

Shehla Arif, University of Management and Technology, Lahore, Pakistan.

Syed Wasif Hussain, University of Management and Technology, Lahore, Pakistan.

Abstract:--

This paper examines the relationship between big data and financial stocks of Pakistan. It examines and tests the relationship between search engine query volumes related to terrorism and financial market KSE 100 Index. Collecting data from 19 different search terms related to terrorism, this paper extends the study by applying linear regression between search queries and KSE 100 index prices. The results show statistically significant and positive between search keywords and prices which mean that frequency or changes in search indices is correlated with prices of KSE 100 index fluctuations. So frequency of keywords related to terrorism is showing the number of terrorism attacks happening in the country which might be means that these attacks are somehow affecting the stock market.

Keywords:--

Big data, KSE 100 index, search engine, terrorism

Effect of Shot-Peening and Imidazole on the Corrosion Resistance of U-Bend SS316L

Prince Johnson, Mechanical Engineering Department, Khalifa University, Abu Dhabi, UAE

EbruGunister, Mechanical Engineering Department, Khalifa University, Abu Dhabi, UAE

ImadBarsoum, Mechanical Engineering Department, Khalifa University, Abu Dhabi, UAE

Paul Rostron, Chemistry Department, College of Art and Science, Khalifa University, Abu Dhabi, UAE

Abstract:--

This study is an examination on the combined effect of shot peening and application of corrosion inhibitor on the corrosion behavior of Austenitic stainless steels (316L) in chloride solutions under constant stress. The constant stress is applied to the samples by U-bending process. The surface hardness of U-bended samples are improved by shot-peening process. The surface morphology of samples are analyzed in different testing and corrosive environments by using Scanning Electron Microscopy (SEM) and Optical Imaging Microscopy (OIM). Electrochemical techniques; open circuit potential (OCP), linear polarization resistance (LPR) and Tafel analysis are used to determine the reduction of the corrosion rate of samples by shot-peening and application of Imidazole as corrosion inhibitor in chloride environment. The results from the electrochemical tests indicate that the combined application of shot peening and Imidazole has resulted in a higher corrosion resistance behavior and hence less corrosion rate of SS316L in chloride environment and the overall efficiency of the material increases to about 58% using the combined application.

Keywords:--

Shot Peening, Corrosion Inhibitor, Pitting, Stress Corrosion.

Effect of Acidity on the Corrosion Behavior of Heat Treated S275 Steel under Constant Stress

Shahid Mohamed Parapurath, Mechanical Engineering Department, Khalifa University, Abu Dhabi, UAE

EbruGunister, Mechanical Engineering Department, Khalifa University, Abu Dhabi, UAE

ImadBarsoum, Mechanical Engineering Department, Khalifa University, Abu Dhabi, UAE

Ricardo Nogueira, Chemistry Department, College of Art and Science, Khalifa University, Abu Dhabi, UAE

Abstract:--

In this stud, the effect of heat treatment on the microstructural and electrochemical properties of mild steel material under stress is studied. Two different heat cycles were performed in order to study the microstructural differences. For strengthening the material, austenitizing and then quenching, and to regain the ductility and toughness tempering type of heat treatment was performed. Microstructure of the FEA analysis and tensile test results. Electrochemical measurements and corrosion testing were conducted in NaCl solutions at pH 4 and 7. Heat treated samples under constant stress had lower corrosion rate than original samples at both acidic and neutral environment. The corrosion rate in acidic environment was increased by 23.5% than neutral environment for original sample, however, this change is reduced from 23.5% to 12.8% by heat treatment.

Keywords:--

Corrosion, Heat treatment, Microstructure, pH.

Compressive Performance of 50MPa Strength Concrete Filled Square and Circular Tube(CFT) Columns Using Recycled Aggregate

WonHo-Choi, University of Seoul

TaeHun-Lee, University of Seoul

SunHee-Kim, University of Seoul

SungMo-Choi, University of Seoul

Abstract:--

In Korea, construction waste has been increasing steadily due to the redevelopment of aging buildings, and problems with aggregate supply and demand have been increasing due to limited natural aggregate reserves. The recycled aggregate is a solution to this problem, but when used as a structural member, the cement paste attached to the aggregate surface causes low compressive strength and high water absorption rate, which lowers the reuse rate. Therefore, we are trying to confirm the applicability of CFT columns to the actual building structural members by filling the concrete with recycled aggregate. In this study, we developed 50 MPa concrete and fabricated 18 specimens of CFT columns filled with recycled aggregate concrete. The parameters are the type of steel tube and the ratio of concrete strength to concrete strength. The compressive behavior of the cyclic aggregate concrete filled CFT column was analyzed through the load - displacement curves and the performance was verified by the existing strength equation of the international code.

Keywords:--

Recycled Aggregate, CFT Column, Concrete Filled Tube, Mixing Ratio, 50MPa, Compression Performance

Data Review of Earthquake Ground Motions Recorded at Ocean Bottom Seismometers for Civil Engineering Structural Design

Tadahiro Kishida, Khalifa University, Abu Dhabi, UAE

Rita Sousa, Khalifa University, Abu Dhabi, UAE

Young-Ji Byon, Khalifa University, Abu Dhabi, UAE

Yuri Sugiyama, Khalifa University, Abu Dhabi, UAE

Abstract:--

Many offshore structures are constructed in locations that are earthquake prone, and therefore, their seismic designs are required. However, in these cases, the selection of the acceleration time series for seismic design is difficult because recorded ground motions at the ocean bottom seafloor are limited. Recently, the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) installed the ocean-bottom seismology network (DONET) at the offshore of Kii Peninsula in Japan. Twenty stations are recording three-component time series using accelerometers and seismometers. These time series are publicly available since 2012 at the JAMSTEC website (<https://join-web.jamstec.go.jp/JSEIS/>). This study selects and processes time series from DONET of representative shallow crustal earthquakes to develop an ocean bottom ground motion database for seismic design of offshore structures. To do this, the study reviews the instrument responses of the accelerometers and the seismograms to determine the frequencies that can be used in design. The recorded ambient noises are compared with the recorded ground motion to evaluate the quality of the signal, then filtering and baseline corrections are applied. The database will be composed of these reviewed and corrected time series. Finally, the corrected data are compared to the ground motion prediction models for shallow crustal earthquakes in Japan to understand the attenuations and site effects at ocean-bottom seafloor.

Design and Fabrication of Airborne Wind Turbine Using Analytical & Fea Technique

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Abstract:--

Wind is the amplest source of energy after Solar. Considering the rise in demand for alternatives to conventional generation of electricity using fuel, wind energy is an attractive sustainable solution. This project focuses on the design and fabrication of an airborne wind turbine, which is a new generation of wind turbine systems that consists of a turbine elevated at high altitude using helium balloon tied with tethers to restrict movement. The current work focuses to overcome the limitations of ground-based windmills by reducing production costs, location constraints and altitude limit. The prototype built is modelled using CREO software and it is simulated using ANSYS Work Bench to enhance the structural stability and obtaining design parameters. The system has a maximum capacity to generate up to 700 W, which is enough to supply half a high electricity consumption household.

Keyword: -

Airborne, sustainability, helium, tethers, FEA.

Perception of E-Learning and the Availability and Utilization
of E-Learning Facilities in Distance Learning Institute,
University of Lagos

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Oladele, Science Education Department, Distance Learning Institute, University of Lagos, Nigeria.

Abstract:--

The study investigated the perception of students of E-learning mode of Education and the availability and utilization of facilities for teaching and learning at the Distance Learning Institute, University of Lagos. Four research questions guided the study. The population of the study was made up of all DLI Science students and Lecturers. A sample of Two hundred and sixteen students and sixty lecturers (Core and Adjunct) of the Science Education Department, Distance Learning Institute were involved in the study. The instrument used for data collection was detailed questionnaire. The data collected were analysed using mean and t-test. Some of the findings revealed that E-learning facilities such as laptops are in-adequate especially on the part of the core lecturers of the institute. Other findings also revealed that E-learning facilities that are adequate and available are computers for computer-based test (Examinations), E-library, Internet access while in the institute's premises and Interactive boards in classrooms. However, some of these interactive boards are seldom used for course facilitation at the study centre meetings based on several militating factors. Based on these findings, recommendations were made to encourage the use of E-learning facilities especially on the part of the lecturers to foster teaching and learning. There should be regular in-house training for lecturers on the use of current and trending E-learning technologies. Government should release the necessary funds to enable universities put in place the required 21STCentury E-learning technologies.

Keyword: -

Facilities, E-learning, Availability and Utilization

Impact of Process Parameters on Surface Roughness of Hastelloy using Abrasive Waterjet Machining Technology

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Abstract:--

Abrasive waterjet cutting is one of the unconventional cutting processes capable of cutting extensive range of difficult-to-cut materials. This paper assesses the impact of process parameters on surface roughness which is a significant machining performance measure in abrasive waterjet cutting of hastelloy. The experimental parameters were selected based on Taguch's design of experiments. Experiments were conducted in varying nozzle traverse speed, abrasive mass flow rate and standoff distance for cutting hastelloy using abrasive waterjet cutting process. The effects of these parameters on surface roughness have been discussed.

Keyword: -

Hastelloy; Mass Flow Rate; Traverse Speed; Standoff Distance; Garnet

Estimation of Power in High Altitude Freely Suspended Wind Turbine

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ChithiraiPonSelvan M, Program Chair - Engineering, Curtin University, Dubai

Abstract:--

Conventional wind turbines are restricted in its use due to certain limitations and challenges in its position. To use wind turbine efficiently and economically, it is required to overcome space requirements, noise, variation in air current and set up cost. This study attempts to design and fabricate suspended wind turbine to overcome the above stated hurdles. In this current work, the blades and the alternator are placed in the helium balloon housing which is suspended in the air and supported to the ground with tether. A tether made of conductive material is to transmit the generated power from the airborne housing to the ground base. Blades are made of aluminium and it ensures low rotational inertia. The proposed suspended wind mill in this study is able to generate power output which is comparatively cheaper than conventional wind turbines and also work will be able to cater the needs of electric power to remote areas and farms. Entire setup is modelled in 3D software Creo and the simulation is carried out using ANSYS software.

Keyword: -

Alternator, finite element method, turbine blade, renewable energy, power

Design and Fabrication of Water Car using Experimental and FEA Technique

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Yassar Qureshi, Undergraduate student, Mechanical Engineering, Manipal Academy of Higher Education, Dubai

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Abstract:--

This project deals with the design and fabrication of a water powered car. The sustainable energy system plays a very important role nowadays because of various limitations in the exhaustible fuels and the pollution. The proposed car incorporates a water turbine which is rotated by the high pressure developed by the powerful pump and specially designed nozzle. The work produced by the turbine is stored in the batteries and the same work is used to run the overall system. Maximum rotation of the turbine power and efficiency is calculated by both theoretical and experimentation. Both the results and compared and validated. The system is modeled in CREO software and tested in Ansys Workbench to obtain structural stability. The system is fabricated using Aluminum for the cups of the turbine and Mild Steel for the chassis.

Keyword: -

Sustainable Energy, Water Turbine, Power, Mechanical Efficiency & Velocity.

Material properties of ZnO, SiO₂:Ce³⁺ nanoparticles and ZnO:SiO₂:Ce³⁺ nanocomposites synthesized by sol-gel process

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Abstract:--

The rare earth metal ions and semiconducting materials are often used as activator and co-activator ions to improve the luminescence properties of silica for their special electronic structures. ZnO, SiO₂ and ZnO:SiO₂:Ce³⁺ nanoparticles were successfully synthesis in an ethanolic solution by using a sol-gel method. Material property dependence on the PH of the precursor was investigated by varying the amount of NaOH during synthesis of ZnO. The corresponding influence of the ZnO and the SiO₂:Ce on the ZnO:SiO₂:Ce³⁺ matrix was also monitored. The structural and optical properties were investigated by X-ray diffraction, transmission electron microscopy, Thermogravimetric analyses, Differential scanning calorimetry, UV absorption and photoluminescence. The incorporation of ZnO nanoparticles increased photoluminescence intensity of the ions.

Determination of percent ascorbic acid in tangerine, pineapple and water melon

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Abstract:--

Titrimetric method of analysis was used for the determination of percent Ascorbic acid in three selected fruits: Water melon (*Citrullus Lanatus*), Tangerine (*Citrus Reticulata*) and Pineapple (*Ananas comosus*). Five different juices from each three fruit sample were analyzed for their Ascorbic acid content using Iodometric titration. There was sample treatment and preparations before the analysis, and the Iodine solution used for the analysis was standardized. The results showed that Tangerine has the highest percent content of Ascorbic acid ranging from 0.0402 to 0.0409%, followed by Pineapple which ranged from 0.0217 to 0.0232 and Water melon with the least value of Ascorbic acid ranging from 0.0137 to 0.0153%. These showed that the three fruit samples contained Ascorbic acid in varying concentrations. In order to obtain the standard concentrations of the various fruit samples, each fruit should be grown under the required optimum cultivation conditions and should be preserved in good conditions. Therefore, it is recommended that the three fruit samples should be used as sources of vitamin c (ascorbic acid). Ascorbic acid is essential for the formation of collagen and intracellular material for bone and teeth and for the healing of wound. It is used in the treatment of Scurvy. Ascorbic acid is the enolic form of 3-oxo-L-glufuranolacetone, which can be synthesized from glucose, or extracted from plant sources and easily oxidized in air.

Keywords:

Ascorbic acid, Tangerine, Pineapple, Water melon, Percent

Development of Solar Absorbing Nanoporous Membranes for Direct Solar Seawater Desalination

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Abstract:--

In nature solar energy is the primary driving force for the formation of fresh water. Solar based desalination is an attractive technology to meet the ever-increasing water demand. In this study we develop efficient and optimized nanoporous membranes for direct solar desalination of seawater. We developed black-body like membranes that maximize solar absorption via the structural design and coating. The structural design involves hierarchical shapes that increase roughness and hence forth increase surface area available for solar energy absorption. This is done via simple and low-cost phase inversion membrane fabrication, developed within our labs. The blackbody-like membranes we develop should possess high thermal conductivity, which is the other objective we focus on in this investigation. To fabricate our envisioned solar absorbing membranes, we developed two distinct approaches, 1) flat-sheet membranes via phase inversion and 2) chemical vapor deposition. In the first, we use polyvinylidene fluoride as the active membrane material. We modified it to incorporate micro/nano particles which are known to have high surface area and good optical and thermal properties. These are graphene nanoplatelets and activated carbon. In the second, we use Anodized Aluminium Oxide (AAO) membranes as the base material and grown high absorbance blackbody like multilayered 3-dimensional graphene coating. The absorbance of each membrane was measured using a UV(vis) spectrometer. The structures of the prepared membranes were characterized and observed by scanning electron microscopy (SEM) and Atomic Force Microscopy (AFM). The Meanflow Pore Size (MPS), Bubble Point Pore Size (BP) and Pore Size Distribution (PSD) were measured using a capillary flow porometer. Also, the porosity was calculated experimentally using a gravimetric method. Contact angle measurements were also performed to find out the hydrophobic/hydrophilic nature of the membranes.

All membranes are tested in a device fabricated specifically for the purpose of this study. The membranes are tested for their ability to evaporate seawater using direct sun light. Measurements of mass fluxes and temperatures are taken, and the overall efficiency of the device is calculated. This study aims at demonstrating these solar absorbing membranes as the core enablers for future direct solar desalination technologies. The absorbance of the graphene coated AAO was measured using a UV(vis) spectrometer and was found to be 97%. The fabricated membrane with activated carbon (3,5,7g) were characterized and measured the porosity and were obtained to be 35.9%, 65.3%, and 56.8%. The MPS was measured at around 5.61, 6.95, and 2.88 μm for 3, 5 and 7g of activated carbon and also The BP was measured 14.72, 20.83 and 14.61 μm respectively. The complete set of results will be included in the full submission.

Cloud Reports Tool to implement IaaS framework with location based authentication in Cloud

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Abstract:

There are many ways to setup Cloud environment and understand it by the concept of virtualization. In this paper CloudReports tool has been discussed to simulate cloud environments and simultaneously generate various kinds of reports and help researchers to carry out experiments in this domain. Location based authentication is one of the method that helps to ensure the authenticity of the user. GPS (Global Positioning System) is used to get the geographical location of the users and only those end users are able to use the resources and services that are present in that particular location to meet the protocols. Once the location is authenticated AES (Advanced Encryption Standard) algo is used for secure communication for the transference of data is accessed over the internet. This paper aims at providing the knowledge of CloudReports which uses CloudSim as its simulation engine in which IaaS framework is implemented with location based authentication of the user in cloud computing.

Keywords :

Authentication; Privacy; Security; Indentity; CloudSim; GPS;AES

Heart Disease Prediction Using Effective Machine Learning Techniques

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Abstract:

In today's era deaths due to heart disease has become a major issue approximately one person dies per minute due to heart disease. This is considering both male and female category and this ratio may vary according to the region also this ratio is considered for the people of age group 25-69. This does not indicate that the people with other age group will not be affected by heart diseases. This problem may start in early age group also and predict the cause and disease is a major challenge nowadays. Here in this paper, we have designed a system which will help in predicting the survivability of heart diseases.

Keywords :

Heart disease, data mining, decision tree, Classification

Waste Water Treatment Using Functionalized Graphene Oxide Hydrogels

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Abstract:

Wastewater treatment is increasingly becoming complex due to new industrial developments like fracking in oil & gas industries. Owing to easy operationalities and simplicity of design, adsorption was found to be a preferable choice for the removal of metal ions selectively (Arias et al. 2005). This paper aims at using hydrogels comprising of sodium alginate (SA) and functionalized graphene oxide (GO) as an adsorbent for removal of heavy metals from waste water owing to their exceptional properties (Yuan et al. 2013; Banat, 2014).

Google Standard Identifier

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Abstract:

Wastewater treatment is increasingly becoming complex due to new industrial developments like fracking in oil & gas industries. Owing to easy operationalities and simplicity of design, adsorption was found to be a preferable choice for the removal of metal ions selectively (Arias et al. 2005). This paper aims at using hydrogels comprising of sodium alginate (SA) and functionalized graphene oxide (GO) as an adsorbent for removal of heavy metals from waste water owing to their exceptional properties (Yuan et al. 2013; Banat, 2014). Google search engine is used by almost 90% of the internet users to find the related websites or web pages on different topics they are looking for. Google displays results in the form of list of related websites and web pages. However Google search engine display list of 11 different websites per page and normally user check about one to two pages for the desired results. A big hectic for Web Developers to code according to the Google standards usually these are the HTML standards which are not considered as a bug, the code execute fine but these lack of standards results in below ranking of website in search engines. To avoid this problem normally the website owner hired Search Engine Optimization (SEO) experts who apply different techniques to display website on first page ranked but this is time taken & costly.

Our proposed solution is to attach a JavaScript Library along with the application in order to avoid Search Engine Optimizer. For this we require the strong command on JavaScript. This library will included in the website same as we include libraries of other JS defined in the <header> tag. This Library have different functions that will identify the missing Google standards from the code and notify the developer at the same time when writing code for website development. By using this method the efficiency is improved.

Blood Transfusion using Machine Learning Technique

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Sadia Mushtaq, Department of Computer Sciences, Muhammad Ali Jinnah University, Karachi

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Abstract:

Blood transfusion and blood components have developed standardized treatment for the patients with one or more blood element deficiency hence it is a significant component of health care. There is an increase in demand for blood. This can be attributed to many reasons like higher accidents, increased medical surgeries etc. Efficient blood transfusion can cater to this increased demand. For increasing future blood donation, medical professionals require necessary details which can be provided by blood donor prediction. Our purpose work is to suggest that provider efficient prediction and motivates the eligible blood donors. The focus of the paper is on the analysis of different classification algorithm for the prediction of finest blood donor (SVM, Cross Validation, Decision tree, K-nearest neighbor, Correlation and Regression, Principle component analysis (PCA), Gaussian Naïve Bayes) classifier of machine learning used in blood transfusion dataset. The suggested methodology will result in higher accuracy and efficiency in selection process when compared with the present one.

Keywords:

SVM, KNN, PCA

Eccentric Compression Experiment of Composite Mega Column with Internal Binding Frame according to Width-Thickness Ratio

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DoBum Kim, Act Partner

KyongSoo Yom, Act Partner

SungMo Choi, University Of Seoul

Abstract:

As buildings are becoming larger, high load composite columns are required. Therefore, in previous study, welded built-up CFT column(ACT Column I) was developed using cold formed steel with ribs. However, there has a limit in size of cross section(618mm X 618mm) by a fabrication facilities. Composite mega column(ACT Column II) is developed by inserting thick plate between cold formed steel with rib to overcome limit of cross-sectional size of welded built-up CFT column. In KBC(Korean Building Code) 2016, cross-section of composite column filled with concrete is divided into three types according to width-thickness ratio considering buckling stress of steel. Composite mega column has different thicknesses of thick plate and cold-formed steel, so average thickness of both steels is used to calculate width-thickness ratio. In this study, eccentric compression experiment was carried out to evaluate width-thickness ratio calculated by average thickness and compressive performance of composite mega column. Typical variables of experiment are column type(CFT, Composite mega column) and cross-section classification(Compact, Non-compact).

Keywords:

Composite mega column, Eccentric compression experiment, Welded built-up CFT column, Width-thickness ratio

Extension of Playfair Cipher Algorithm using 16 X 16 Matrix with Unicodes

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Shumaila Mehboob, Mohammad Ali Jinnah University Karachi, Pakistan.

Safiyah Batool, Mohammad Ali Jinnah University Karachi, Pakistan.

Abstract:

During this contemporary era of social networking, information breach is a foremost concern. To keep the privacy and security intact, the data sent over any network should be encrypted and decrypted on sender and receiver side respectively. This paper discusses an extension to the existing Playfair cipher and enhances it in terms of efficiency and security. Moreover, it discusses how the algorithm will be implemented according to the needs of current ubiquitous computing era. The enhanced Playfair cipher improves the security of a message using a key. Based on 16 X 16 matrix, it is comprised of small letters, capital letters, numbers and even emojis; constructed with Unicode. The algorithm introduced, is suitable for securing Short Message Service (SMS) sent through mobile (small) devices over the cellular network. These devices have limited resources, hence the elementary computation required by this algorithm can easily be applied.

Keywords:

cryptography, symmetric encryption, substitution, private key, Playfair cipher, cipher

A Multipurpose Mobile Application for Air Cargo Management System for Saudi Airlines

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Dr. Hadil Shaiba, Asst. Prof., Dept . of Computer Sciences, CCIS, Princess Noura Bint Abdulrahman University

Abstract:

Shipping parcels plays a significant role in our lives. It provides us with products that are overseas, the essentials that we lack in our countries no matter whatever the size or quantity. In the shipping system we aim to ship parcels in high speed and high quality by providing several enhancements that demand highly secure systems protecting both the customer's information and the shipment itself. Thus every shipping company strives to accomplish the shipping in a secure and trusted way, putting the customer in the highest priority. This paper explains an implementation of an android application (Airpress) that will help Saudi Airlines and associated companies in import and export of the items needed. The application allows customers to create cargo easily and quickly. A customer can register and create cargo at any time, and track the cargo by a single click. It's a multi-purpose mobile application that aim to help companies to make it easier to have an app that is specialized for serving businesses. Examples of other majors tasks that the app can accomplish are : a) Door ro door delivery by registered to make it easier and more convenient for customers – b) Providing more options for customers to find the suitable and preferred way to make their orders.

Keywords:

Cargo, Delivery, Packaging, Receiver, Sender, Shipment, Status, Tracking number, Time frame.

Efficient Youtube mining and data analysis using Hadoop

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Abstract:

Analysis of organized information has seen huge achievement before. However, analysis of large scale unstructured information as video format remains a testing region. YouTube, a Google organization, has over a billion clients and creates billions of views. Since YouTube information is getting made in an extremely colossal sum and with a similarly extraordinary speed, there is an enormous request to store, process and painstakingly ponder this large amount of information to make it usable. The principle goal of this project is to show by utilizing Hadoop ideas, how information created from YouTube can be mined and used to make focused on, continuous and educated choices. This project utilizes SQL like inquiries that are later keep running on Big Data utilizing HIVE to extricate the important yield which can be utilized by the administration for analysis.

Keywords:

Big data; YouTube, Data Analysis, Hadoop, Digital Marketing

Removal of Heat Stable Salts from Lean Amine via Electrosorption using Carbon- based Electrodes

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Abstract:

Alkanolamine systems are an integral part of Natural Gas plants. They scrub H₂S and CO₂ from crude gas before it is used or transported. Reactions between acidic contaminants and amine can produce thermally stable salts, called Heat Stable Salts (HSS) [1]. Since the technology is closed loop, these salts can accumulate overtime and can cause major operational problems in alkanolamine systems such as corrosion, foaming and reduced solvent efficiency [2]. The current technologies available to treat and remove heat stable salts are inefficient and can lead to huge amine losses [3]. Capacitive Deionization is an alternative technology for desalination that can be also applied to Lean Amine systems to remove HSS. In this research, a number of different carbon electrodes were prepared and tested in order to determine the most suitable one for HSS removal.

Analytical and Comparative Literature Study of Big Data in Blockchain

Madhavi Vaidya, Asst Professor, Computer Sc Department, Vivekanand Education Society's College of Arts, Science and Commerce

Abstract:

Data centres owned and maintained by third party or a cloud can be formed and maintained using the number of physical machines. The computing edge is undergoing a radical change from traditional non-centralized distributed system architecture, to typical parallel and pseudo-distributed nodes. Such nodes are scattered across different geographic areas to a centralized cloud computing architecture where data transformation and computations are operated on any random node. Today, with the use of Internet, a huge volume of data has been generated in the form of transactions and logs. Blockchain is a distributed database system that acts as an “open ledger” to store and manage transactions. Blockchain has the potential to change the way that the world approaches big data,

It's because of advancements in Data storage, global connectivity with Internet high speed, mobile applications usage and IoT. BigData Technologies aims at processing the BigData for deriving trend analysis and business usage from its BigData information in case of Blockchain. This paper highlights some of similarities and differences between the structure which have brought new dimensions of Hadoop and Blockchain functionality along with shortcomings of Kerberos implementations which are required for the security of Big Data in distributed environments.

Application and Effects of Standardisation and Quality Management Techniques in an Automobile Manufacturing Plant

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Abstract:

Total Quality Management and Standardisation techniques used in various industrial processes have become a common norm in today's manufacturing sector. Globalization has led to a race between multi national manufacturing organisations to create and distribute products using cost effective but higher quality processes to manufacture products. Six Sigma, in itself is a part of total quality management. It is effective in certain organisations but its implementation is difficult due to differences in work cultures, cost of analysis and implementation. The effectiveness of Kanban, 5S, time cycle techniques as well as Lean have been explained in this article. This article also explains the use of various TQM techniques used in an automobile manufacturing plant in India and its effects on the daily rate of production and costs over a period of 6 months.

Direct Solar Desalination Using Nano/Micro-porous Polymeric Membrane via Thin Film Evaporation

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Abstract:

Evaporation from micro/nano structures is a ubiquitous phenomenon which plays an important role in nature and industrial applications, such as transpiration in plants, mammalian perspiration, electronic cooling and water desalination. Thin film evaporation from nanoporous membranes is a promising thermal desalination approach because it utilizes the passive capillary pumping of liquid to the evaporating interface and allows for high heat transfer rates due to the large evaporating area in addition to the capillary pumping driving force. In this study, solar energy was used as a heat source to evaporate seawater through in-house fabricated polyvinylidene fluoride (PVDF) nano/micro-porous membranes. Compromising between the available area for evaporation via changing pore size and the available material for conductive transfer of heat to the liquid thin film is complicated. Since more porous membrane increases the evaporation surface area and at the same time this leads to having less conductive material for heat transfer which at the end will reduce the evaporation rate. The main objectives of this study are, firstly to investigate the pore size effect on the vapor flux by fabricating flat sheet membranes via a phase inversion process with 12wt% of PVDF and 500 μm thickness, and varying preparation parameters such as relative humidity and exposure time to achieve different pore sizes. Secondly to examine the thermal conductivity effect by blending different concentrations of fumed silica (1, 2, 3, 4, or 5 wt%) with the polymeric solution. The fabricated membranes were characterized by scanning electron microscopy (SEM), contact angle analyzer (CA), Fourier transform infrared spectroscopy (FTIR), capillary flow porometry (CFP), porosity and AFM, to further understand the observed thin film evaporation effects. The preliminary results showed, the mean flow pore diameter of the fabricated membranes are 117.2 nm, 123.3 nm and 206.6 nm and their porosity 28.4 %, 46% and 33% respectively. Also, the contact angle analyzer proved the hydrophobicity of these fabricated membranes since the contact angle was found to be above 95°.

Furthermore, this study is aiming to show that the polymeric membrane can be implemented as an alternative effective material in thin film evaporation applications with lower cost compared to commercial ceramic alumina anodes (AAO).

Challenges in Design of Underground Metro Stations

Honey Mehra, SMEC(I) PVT Ltd

P. Naga Gopinath, SMEC(I) PVT Ltd

Abstract:

Underground Metro station is a very complex structure which involves numerous challenges in design as well as construction. Due to limited space in cities and the problems faced in urban transportation around the world a large no of underground metro stations have been built/ are being constructed .Noteable examples are Liverpool street in London,Chatelet – Les Halles in Paris, Fulton Street in NewYork,Shibuya in Tokyo, Changshu Road in Shanghai and Shalimar Bagh in Delhi. However the construction of underground metro station involves both temporary structures and permanent structures.

Various types of temporary structures are adopted depending upon the site conditions, ease of construction and economy. Soldier piles, secant piles and diaphragm walls in combination with Waler beams and struts are the common structural systems adopted worldwide. The design of these systems typically involves the design of the piles/diaphragm walls, the struts and the waler beams. Design also depends on the construction method adopted – Bottom up or Topdown. In bottom up the station is excavated till the bottom and subsequently the permanent components of the station like undercroft ,platform ,concourse and roof slab are constructed. In top down the excavation and construction of the different slabs at various levels go on one after the another. For both topdown and bottom up construction a rigorous construction sequence is followed. The design for the piles is done using geotechnical softwares like Wallap, Deep excavation etc and for the design of waler beams and struts structural analysis softwares like STAADPro are often used.

The permanent structure for the station building is a monolithic structure. A typical station can be 225m long,15m deep and 25m wide. This building has floors at different levels, side walls at the periphery and columns in the middle. Generally the size and location of the columns is also governed by architect who sometimes have requirements which the structural engineer finds hard to fulfill. The design of the permanent structure is done by using 2D X- sections at various grids of the station. The loadings include the soil fill on top, water pressure at the sides , train live loads, live loads at concourse and platform. Seismic forces were previously not considered in design since it is a buried structure. However after Kyoto earthquake where several stations in Japan suffered cracks racking force is generally taken for design of the underground stations being constructed nowadays around the world.

Design and Fabrication of Solar Operated Automatic Drainage Cleaner

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India

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Abstract:

This project emphasis on Design and Fabrication of Solar Operated Automatic Drainage Cleaner. The motive of the project is to automate the sewage cleaning process in drainage, to reduce the spreading of diseases to human. The work has done looking at the current situation of our national rivers which are dump with crore litres of sewage and loaded with pollutants, toxic materials, debris etc. The government of India has taken charge to clean rivers and invest huge capital in many river cleaning projects like “Namami Gange”, “Narmada Bachao” and many major and medium projects in various cities like Ahmedabad, Varanasi etc. By taking this into consideration, this machine has designed to clean river water surface. Automatic Drainage Cleaning System proposed to overcome the real time problems. With the continued expansion of industries, the problem of sewage water must be urgently resolved due to the increasing sewage problems from industries of the surrounding environment. The waste and gases produced from the industries are very harmful to human beings and to the environment. This machine contains the solar panel getting the energy saved on battery for easy working of dc motor.

Keywords:

Profile, Wastewater, Auxiliary treatment, Autonomous system

The Pakistan Asian Predictable Seismic turmoil Extrapolation and Communicating Exemplary for Realm Populates by Wireless Sensor Network

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Abstract:

The notable determination of this investigation paper to advance earthquake estimate Scheme for the Asian. This model would provoke the seismologist, earthquake engineers, geologist, geotechnical specialists and other experts embolden and motivate them in the direction of earthquake expectation and telecasting system for Asian and world motherlands. The elementary purpose of this artefact to detect the mysterious waves which cause the subordinate waves. The main complications of this world to variety the earthquake model for the wave's exposure that's foundations earthquake. In this tabloid we projected the model for the earthquake prediction and telecasting system for the world.it may be save millions of lives from the death. The main perseverance of this research to serve impermanence and save the lives of the people of the world from natural misadventure. The primary single-mindedness of this research to variety world warning system for the every countries of the world. We improved Erdic Mustafa model for Pakistan South Asia. The Erdic Mustafa has so many flaws but our model is excellent in the world. It is a kind of abstract which is transliterated mutual people of the world which easily understand the disagreements vocabulary. The all system would work on solar and geothermal energy, because all sensors of the scheme would be installed with different coastal areas of the Asian countries like Pakistan, Saudia Arab

Keywords:

Earthquake Prediction, Telecasting, Seismic Waves, Natural Disaster, Wireless Sensor Network

Contributions of some Muslims Engineers of the Golden Age to Engineering

Saadia Khouyibaba, American University of Sharjah

Abstract:

The theme of my poster is the illustration of some contributions of certain Muslim scholars to the engineering. In a first step and without going into all the details, we will expose the contribution of the polymaths Banu Musa brothers and Ismail Al Jazari in mechanical engineering. Subsequently, we will expose the birth of the aviation with the experience of Abbas Bin Firnas.

Keywords:

History of sciences, Science of Golden Age of Islamic Worlds, History of Engineering

Design, Analysis and Fabrication of Fire Water Storage Tank

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Abstract:

Fire water tanks are most commonly and widely used to protect oil storage depots and terminals. The size of the tanks depends upon type of product to be stored and the volume of the tank. These types of tanks are very crucial in the oil and gas industry. The failure of this tank has several undesirable effects such as environmental hazards, endangering personnel involved and interrupting the operators business. Hence, it is required to assess tank integrity and maintaining compliance with industry and regulatory standards. In this research paper design of fixed cone roof fire water tank have been performed. The analysis has been carried out considering carbon steel for the fire water tank using CFD and finite element analysis.

Keywords:

Fire water tank, ANSYS, Design, Fabrication.

A Framework based on Human-Machine Interfacing for Mouse Cursor Movement with Human Eye Ball

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Abstract:

'Control' is indeed a revolutionary field in science and a lot of research has been focused on forming digitally automate world, having all protocols controlled via microprocessors with great accuracy, perfection and efficiency, nullifying human errors. With the emergent of technology, number of computer devices is cumulating every day. For this reason, we propose an interactive framework; Mouse Cursor Controller (MCC) which controls the movement of mouse cursor with the rotation of human eye ball. The proposed framework requires the detection of face, tracking of eye balls using template matching, storing consecutive camera captured frames having eye ball's positions and comparing this data, generating an error signal used as an input for mouse cursor's position. This error signal is fed to the mouse driver and hence location of the cursor is updated accordingly. The other proposed frameworks in this field incorporates; Electrooculography sensors mounted around the human eye taking signal from eye muscle movement and varying cursor's location consequently. The techniques applied in these frameworks are not appropriate because they are not autonomous. Moreover, they do not ensure efficient human-machine interfacing. On the other hand, our proposed framework of eye balls tracking provides an autonomous human-machine interface. The proposed framework integrates the useful information extracted from camera captured frames focusing the eye-ball position for accurate maneuver detection; instead of determining the movement of eye-ball using sensors and feeding the result for cursor's positioning; a direct link is developed between machine's hardware and human's eye which minimize the hardware requirements. Moreover, this technique is more efficient, as increasing the number of frames per second, enhances the precision and monitors extremely small positional changes creating a perfect and swift response accordingly. Furthermore, the proposed framework is beneficial for hand free computing.

Key-words:

Electrooculography; Mouse Cursor Controller (MCC); Human-Machine Interface

Investigating the Effects of Mechanical properties of Wood-Plastic Composites from MSW of China

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GaoZhongquan, School of Energy and Power Engineering Xi'an Jiaotong University

Abstract:

China is facing major environmental problems associated with municipal solid waste generation, due to fast growth of urbanization and industrial development. It is required to develop satisfactory technique of recycling waste into energy by injection molding and extrusion molding process to produce wood plastic composites. It is promising solution, with great contribution in structural and non-structural engineering. 70% of different types of wood flour particle size of 20, 40, 60 and 80 collected from Xian furniture market and 25-30% polymer matrix collected from the Xi'an Village of garbage plant consists of 83% polyethylene (PE), 7% polypropylene (PP), 9% polyvinyl chloride (PVC) and 1% polyurethane mixed together to produce wood plastic composites. Additives used to enhance the inter-facial bonding and strength of material. Wood flour affects and the quality of wood plastic composites with its mechanical properties such as tensile strength, bending strength, impact strength and water swelling ratio were examined.

Key-words:

Wood-Plastic Composite (WPC); Mechanical Properties (Flexural strength; Tensile strength; Impact strength)

Computer Interaction Using Laser Pointer

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Hira Farman, Quaid-e-Awam University of Engineering Science and Technology, Nawabshah

Abstract:

In recent years high quality interaction devices have become very popular in our environment. The industries are also currently undergoing rapid change and various technologies have been explored to enable these capabilities. Projection systems using beam projectors and laser pointer became the ubiquitous infrastructure for command technology. Group meetings and other non-desk situations require that people should be able to interact at a distance from a display surface. This paper presents new interaction techniques that use a laser pointer to directly interact with display on a large screen. The camera is subsequently used to detect the position of the pointing device (such as a laser pointer dot) on the screen, allowing the laser pointer to emulate the pointing actions of the mouse. The laser pointer will behave as an active point on the projected display where the user can interact. This vision-based system is augmented with a natural interface that enables the user to interactively refine the suggested rectification. This makes it very easy for users to execute fast and Continuous commands. The interaction model developed behaves like a “smart interaction system.” The vision based interaction system requires no special hardware and runs on a standard computer.

Pitch Control of Wind Turbines with Fuzzy Controller

Sulaiman Khan, Muhammad Ali Jinnah University, Karachi

Muhammad Tahir Ayub, Muhammad Ali Jinnah University, Karachi

Hira Farman, Muhammad Ali Jinnah University, Karachi

Muhammad Salman, Muhammad Ali Jinnah University, Karachi

Abstract:

As we know, Fossil fuels are declining day by day which has lead researchers to think about an alternate. As the world does not contain enough fossil fuels to supply electrical power to the whole world therefore Renewable energy is the new focus of modern researchers. Renewable energy especially solar and wind are widely used. Power quality is a very important problem in wind turbine. Due to the dynamic nature of this source the power quality issues occur. These issues mainly occur due to the variable nature of wind which consequently distorts the power output of the wind turbine. Add problems here if you want to but don't make it long. It's just a summary so keep it short. To tackle these problems control techniques are widely developed. In this research we have acquired the complete transfer function of wind turbine based power plant and step response based analysis has been made to evaluate the best pitch control technique. A PID and Fuzzy controller are implemented and step response is compared. Results clearly show that the Plant has best response under Fuzzy controller.

Keywords:

Wind Turbines, Renewable Energy, Pitch Control, PID Controller, Fuzzy Controller

Resource Estimation of Mobile Application Development: Review

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Abstract:

A Mobile phone has evolved from being a voice communication system to a medium for technology. Mobile applications are a kind of software that is installed on a mobile device with some important differences than traditional software application and web applications. Most of the organizations have switched their web application based software's to a mobile application based software's. With the growth of smart phones there is a great demand for smart applications. For software companies it is important to deliver application software's on time, within budget and with high accuracy. Effort estimation is the fundamental area that chooses budgetary constraints related to mobile application development which keeps company to maintain accurate estimates for mobile application development to maintain their reputation in the market. In this paper, different reviews are made clear to propose a way cosmic an appropriate method that can be used to size mobile application in a fast and accurate way.

Keywords:

Mobile effort estimation, Function size measurement, Estimation models.

Measuring the Scientific Impact Using Citation's Context

Sahrish Ghaffar, Assistant professor, International Islamic University, Islamabad

Abstract:

The impact of a publication and scientific evaluation is often measured by the number of citations it received. Citations plays very important role for scientific evaluation and for measuring impact of publications. In previous study only number of citations was counted for measuring publication impact and for scientific evaluation. However, a highercitation index does not necessarily mean that a publication necessarily had a positive feedback from citing authors, as a citation can represent a negative criticism. Here citation is a combination of positive, negative and neutral citations. We apply sentiment analyzer technique to rate citations as positive negative and neutral and then explore Conflict of Interest (COI) relationship by using Positive and Negative COI Distinguished Objective Ranking (PANDORA) algorithm and discover negative citation and weaken the associated citation strength. Our findings will help the authors to find out the impact of any author fairly by taking into account not only number of citations but also contexts of citations, whether it is cited positively or being criticized by some author.

Adopting Agile Methodology for Product Line Engineering

Shafiq Babar, Assistant professor, Arid Agriculture university Rawalpindi

Abstract:

The software engineering helps to develop high-quality products with friendly cost. Software product line engineering (SPLE) is a technique which helps to manage this process. Existing frameworks mainly consist of two activities for developing products. Firstly, the usage of already existing assets and second building the application software. Agile software development (ASD) is also major technique which is adopted by software developers and SPLE Experts. These two techniques are different to each other but in this research, we combine both technique to develop high quality products and overcome the limitations of these techniques. In this paper highlight the strength and shortcoming of both techniques and provide framework which leads towards successful projects and developing products under the controlled process.

Towards Requirements Elicitation and Analysis Model for Distributed Audience

Shafiq Babar, Assistant professor, Arid Agriculture university Rawalpindi

Abstract:

Requirements elicitation is the challenging activity and the most important activity for software development process. Requirement elicitation is the process of gathering information from the user and stakeholders. By reviewing the literature review, there are a lot of challenges involved in the elicitation process i.e. lack proper communication, and knowledge transfer between software stake holders. Most of the companies are moving towards global distributed environment and there are a lot of problems and challenges occur due to temporal, geographic and socio-cultural diversity among stakeholders. In this study, we propose a new approach to requirements elicitation and analysis phase in distributed environment with the knowledge management technique that improves the software development process. The purpose of thesis is to develop a distributed framework based on eliciting and analyzing the requirements from the customer by implementing knowledge management technique that efficiently handle and manage the resources of an organization. The purpose of this study is to improve the elicitation and analysis process by using knowledge management techniques in distributed environment. Thus, this study improves the software development architecture. The feasibility and effectiveness of the proposed approach were evaluated in an empirical study with encouraging results.

Keywords:

Requirement elicitation, model, distributed audience, communication, knowledge management

Towards Selective Regression Testing Approach for web-based Application

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Abstract:

Regression testing is applied to a modified program to ensure that no new errors are introduced in previously tested code. In web based applications due to frequent changes, it's important to detect change and test faults. Three major techniques used in regression testing: selection, prioritization and minimization. In this research work the review of all existing techniques, which are related to regression testing for web based applications will be presented and strengths and shortcoming of these techniques will be highlighted. Existing web based regression test selection techniques having issues in memory consumption. This approach overcomes this issue using hash table and provide framework of efficient testing without storing large amount of data and check behavior of just affected parts of application. Automatically it leads toward lower cost and less execution time.