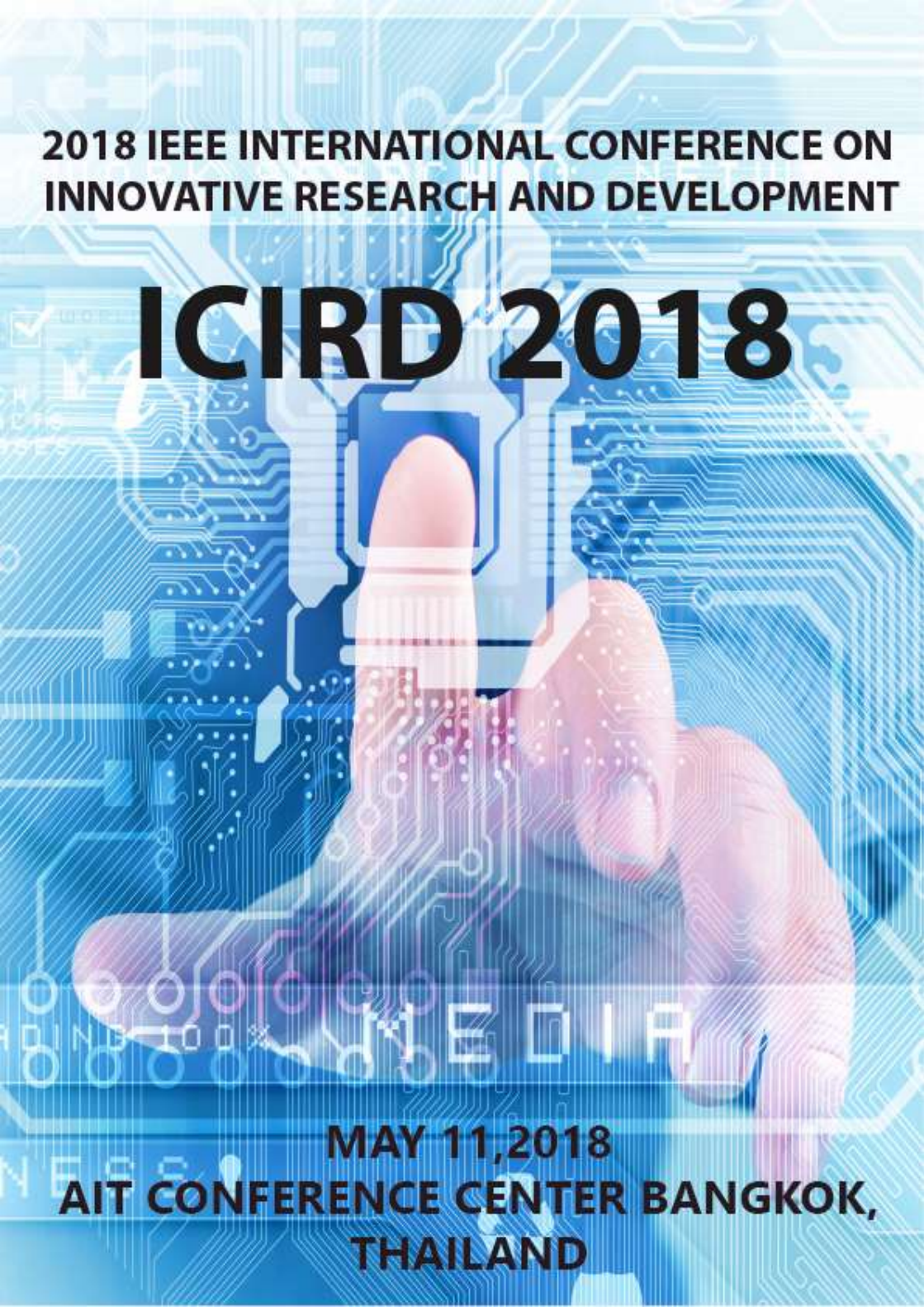
2018 IEEE INTERNATIONAL CONFERENCE ON INNOVATIVE RESEARCH AND DEVELOPMENT

ICIRD 2018



MAY 11,2018
AIT CONFERENCE CENTER BANGKOK, THAILAND

IEEE International Conference on Innovative Research and Development ICIRD 2018

The International Conference on Innovative Research and Development (ICIRD) 2018 is being organized by IEEE IIUM SB, technically supported by the IEEE IMS Malaysia Chapter. The theme of this conference is "Innovative Research is Driving our Future". The International Conference on Innovative Research and Development (ICIRD) 2018 will provide a meeting place for the sharing of novel ideas and research findings in the field of engineering, technologies, social sciences & business management. Its main goal is to foster multidisciplinary exchange by researchers and developers as well as research students and professional experts. We invite original and unpublished work by Academics, Researchers, Business Leaders, Experts and Executives from Universities and industrial research institutes to submit for the conference.

2018 IEEE International Conference on Innovative Research and Development (ICIRD) is IEEE indexed conference, Conference # 44240 ISBN: 978-1-5386-5696-9. The Conference will be held in Asian Institute of Technology Conference Center (AITCC) , Bangkok Thailand from 11-12, May 2018.

Organized by:

IEEE IIUM Student Branch

ETSS Management

IEEE INSTRUMENTATION & MEASUREMENT Malaysia Chapter

INVECTUS INNOVATION

FOREWORD FROM GENERAL CHAIR

Dear Colleagues,

It gives me great pleasure to welcome all of you to 2018 IEEE Innovative Research and Development (ICIRD 2018). The conference will provide a meeting place for the sharing of novel ideas and research findings in the field of engineering, technologies, applied sciences & business management. Its main goal is to foster multidisciplinary exchange by researchers and developers as well as research students and professional experts. The aim of the ICIRD 2018 is to provide a platform for professionals to share their experiences, research studies and explore innovative solutions through joint research, to contribute to the advancement in engineering, technologies and applied sciences. There is no doubt that the calibre and experience of our invited distinguish high-level speakers will inspire our wide participation and makes this conference a genuine platform to discuss matters involving the connection between idea creation and wealth creation.

Once again, we are delighted to welcome all of you in the ICIRD 2018 conference and hope that it will be a productive, stimulating and successful event.

Prof. Dr. Asadullah Shah
General Chair
ICIRD 2018

Foreword Technical Program Chair

The 2018 IEEE International Conference on Innovative Research and Development (ICIRD 2018) is an IEEE Indexed Explore (Conference # 44240 ISBN: 978-1-5386-5696-9) event with much more adding on to its debut since its last debut in the beginning of 2017. Here participants meet for an eye-to-eye and contemplating on different subject areas. ICIRD 2018 is one of the two flagship events of Engineering Technology and Social Sciences (ETSS)- a platform where researchers, academicians and educationists from around the world meet once every year. ICIRD 2018's Technical Committee adds values and virtues to their skills they have gained during such events in the past while attending to delegates' responses and queries diligently. Participation in our event will equip one with an unforgettable learning experience, as we are on our way to host more international events bearing flag of the major IEEE Societies. We hope that you will be having a fruitful stay here at AITCC, Thailand. We guarantee attention with service and see you in the IEEE ICIRD 2018.

Dr. Sheroz Khan
Technical Program Chair
ICIRD 2018

ABOUT ETSS MANAGEMENT

Aims and Objectives:

The main aim of the ETSS Management is to support research culture among international community in the field of Engineering, Technologies, Business, Social and Applied Sciences.

The primary objective of the ETSS Management is to promote research and developmental activities in Engineering, Technologies, Business, Social and Applied Sciences areas. Another objective is to promote information interchange between researchers, developers, industrialist, engineers, students, entrepreneurs and practitioners working in and around the world.

Activities:

The ETSS Management is involved in organizing local as well as international level conferences, seminars, workshops, project competitions, project exhibitions, research talks and many more. The ETSS Management intends to start research journals in multidisciplinary discipline covering major fields of Engineering, Technologies, Business, Social and Applied Sciences.

Dr. Shah
President
ETSS Management, Malaysia

KEYNOTE SPEAKER

Prof. Dr. Manesh B. Kokare

Dean Research & Development
Shri Guru Gobind Singhji Institute of Engineering and Technology

Title: Recent Research Trends, Advances and Challenges in Image Processing and Computer Vision.

Abstract: Image Processing and Computer Vision are important areas of research. Human brain gets information from different sensory organs like eyes, ears, skin, nose and tongue. But most of the information we get through our eyes. And human being takes most of the decision based on visual perception. To provide human intelligence to machine, knowledge of image processing and computer vision plays a vital role. Many real-world problems can be solved with image processing and computer vision. Hence, today Digital image processing and Computer Vision are very popular and rapidly growing areas of research in engineering and science. Many researchers are working in this domain develop better algorithms. Its growth leads by technological innovations in the fields of digital imaging, computer processing, mass storage devices, and several diverse applications in many field. Fields which have been traditionally using analogue imaging are now switching to digital systems, for their edibility and affordability. Important examples are medicine, and video production, photography, remote sensing, and security monitoring. These sources produce a very huge volume of digital image data daily, more than could ever be examined manually. Some of the important applications of image processing in the field of science and technology include computer vision, remote sensing, feature extraction, face detection, forecasting, optical character recognition, finger-print detection, optical sorting, argument reality, microscope imaging, lane departure caution system, Non-photorealistic representation, medical image processing, and morphological imaging. In this talk I shall focus on recent advances and Challenges in Image Processing and Computer Vision.

Schedule Friday 11th May 2018			
Time(Hrs)	**Venue**	**Program**	**Duration**
08:00		**Conference Registration**	**60 minutes**
09:05	B108	Opening Speech: Conference welcome speech by Technical program -Chair Dr. Sheroz Khan	15 minutes
09:20		Commencement and speech by Conference General Chair Professor Dr. Asadullah Shah	15 minutes
Keynote Speech			
09:35	Room B108	Prof. Dr. Manesh B. Kokare	45 minutes
		Vote of Thanks by Dr. M. Yaqoob Koondhar Secretary ICIRD 2018	10 minutes
10:30		**Tea Break and Networking Session**	**30 minutes**
11:00 – 13:00	Room B108	Engineering and Technology Parallel session	(10 min of presentations + 5 min of Q&A)
	Room B202	IT Parallel session	
	Room B225	Communication Parallel session	
13:00		**Lunch Break**	**120 minutes**
14:00 - 16:00	Room B108	Engineering and Technology Parallel session	(10 min of presentations + 5 min of Q&A)
	Room B202	IT Parallel session	
	Room B225	Technical Parallel session	
Closing Ceremony **16:00 – 16:30**			
Tea and Refreshment **16:30 -17:00**			

TIME(Hrs.)	PAPER ID	PAPER TITLE
Track 1: Engineering and Technology		
Room 108		
11:00	5	Security using Image Processing and Deep Convolutional Neural Networks. Authors: Goutham Kotapalle; Sachin Kotni
11:15	18	Particle Swarm Optimization Based Maximum Power Point Tracking for Seawater Battery Application Author: Soedibyo Soedibyo
11:30	23	Relevant Factors and Classification of Student Alcohol Consumption Authors: Burit Chonvirachkul; Auth Pisutaporn
11:45	24	Comparison of P&O and Inceremental Conductance Based Maximum Power Point Tracking for Wind Turbine Application in Remote Area Author: Soedibyo Soedibyo
12:00	39	Stability analysis of vehicle parameter estimation using Recursive least square with multi forgetting scheme Authors: Worakit Puangsup; Sarawoot Watechagit
12:15	44	Application of High Efficiency Motors in HVAC System for Energy Saving Purpose Authors: M. m. s. Dezfouli; Mohd Yazid
12:30	84	Application of Quality Function Deployment in Product Improvement of Power Strips Authors: Orapadee Joochim; Chanchai
12:45	82	Differentiation Among Coffee Bean Species Using Image Processing, Artificial Neural Networks and K Nearest Neighbor Classifiers Authors: Edwin Arboleda; Arnel Fajardo; Ruji Medina
13:00	**Lunch break And Networking (60 MIN)**	
14:00	55	Dynamic Programming for Solving Unit Commitment and Security Problems in Microgrid Systems Author: Venkata Borra
14:15	65	Theoretical modelling for experimental study of Solar Still with Integrated Built-in Condenser Author: Dr. Husham Ahmed
14:30	67	Design and Analysis of High Gain Modified SEPIC Converter for Photovoltaic Applications Author: Heri Suryoatmojo
14:45	81	An Image Processing Approach for Coffee Black Beans Identification Authors: Edwin Arboleda; Arnel Fajardo; Ruji Medina
15:00	75	Experimental Characterization of a Tactile Sensor for Surgical Applications Author:Anas Tahir
15:15	71	Plant Disease Detection Using CNNs and GANs as an Augmentative Approach Authors: Rutu Gandhi; Shubham Nimbalkar
15:30	28	GIS-based Mapping Potential Sites for Micro-hydro Power Plants In West Sumatera Author: Yuhendra Yuhendra
15:45	27	Condition based maintenance management system for improvement in Key Performance Indicators of mining Haul Trucks-a case Study Authors: Verinder Kalra; Tilak Thakur
16:00	**End of parallel Session**	

TIME(Hrs.)	PAPER ID	PAPER TITLE
Track 2:IT		
Room 202		
11:00	19	Streamlining mobile app deployment with Jenkins and Fastlane in the case of Catrobat's Pocket Code Author: Kirshan Luhana
11:15	36	Using Support Vector Machine in FoRex Predicting Authors: Thuy Nguyen
11:30	38	On the Optimization of Kereta Kapsul'S Base Frame Structure Author: Johan Aliabudi Yahya; I Wayan Suweca
11:45	59	MASI: Moving to Adaptive Samples in Imbalanced Credit Card Dataset for Classification Author: Thuy Nguyen; Lich Nghiem Thi
12:00	61	E-Health Solutions in Developing Countries: Case of Kuwait Authors: Sumayya Banna; Andri Ottesen
12:15	62	STATS - Software Component Trend Analysis Over Time Series Author: Ronan Kenny
12:30	85	Pocket Code Build Variants Author: Kirshan Luhana
12:45	87	A Survey of Soft Computing Applications in Global Software Development Author: Asim Iftikhar
13:00	**Lunch break And Networking (60 MIN)**	
14:00	11	Social Media used for promoting the Libraries and Information Resources and services at University Libraries of Sindh Province Authors: Azam Ali Halepota, Liaqat Rahoo
14:15	70	Information Seeking Behavior of Research Scholars at MUET Library & Online Information Center, Jamshoro: A Study Author: Muhammad Ali Nagar, Liaquat Ali Rahoo
14:30	69	Customer Satisfaction in Commercial Bank of Sindh Province A Case Study of Bank AL Falah Author: Maryam Kalhoro, Liaquat Ali Rahoo
14:45	68	The future of data privacy & security concerns in Internet of Things Authors: Zulfiqar Solangi
15:00	88	Soft Computing Applications in Education Management - A Review Author: Marzia Khan
15:15	104	Impact of Technology on the Security of the States Authors: Ronaque Behan
15:30		
15:45		
16:00	**End of parallel Session**	

TIME(Hrs.)	PAPER ID	PAPER TITLE
Track 3: Communication		
Room 225		
11:00	30	Time Domain Cyclic Selective Mapping for PAPR Reduction in MIMO-OFDM Systems Author: Filbert H.
11:15	40	Uplink Channel Estimation for Nonorthogonal Coded Access Author: Fanggang Wang
11:30	54	Performance Analysis of OSTBC with Hybrid Decode-Amplify and Forward for Cooperative Communications Author: Chirawat Kotchasarn
11:45	57	Power Allocation for Multi-User Downlink MIMO Transmissions Authors: Chirawat Kotchasarn
12:00	89	Rate Adaptive Cooperative Multichannel Directional MAC Protocol for Ad Hoc Networks Author: Md. Obaidur Rahman
12:15	90	Traffic Adaptive Channel Utilization Based Medium Access Control Protocol for Cognitive Radio Network Author: Md. Obaidur Rahman
12:30	91	An Approach towards Developing Tower of Hanoi Sequence Based Distributed Multi-Channel Parallel Rendezvous for Ad Hoc Networks Author: Md. Obaidur Rahman
12:45		
13:00	**Lunch break And Networking (60 MIN)**	
	Technical Session	
14:00	98	Optimization of Microwave Heating Parameter for TiO2 Extraction Process From Iron Sand Indonesia Author: Miftakhur Rohmah
14:15	97	Lithium Recovery from Bledug Kuwu Mud Volcano Using Water Leaching Method Author: Miftakhur Rohmah
14:30	49	Influence of Soil Conditions on Corrosion Behavior of Buried Coated and Uncoated Carbon Steels Authors: Shahrukh Shoaib
14:45	1	Robotic exoskeleton Control for 1 DOF lower limb rehabilitation
15:00		
15:15		
15:30		
15:45		
16:00	**End of parallel Session**	

TIME(Hrs.)	PAPER ID	PAPER TITLE
Track 4: Technical Session		
Room A		
11:00	26	Sentiment Analysis on Large Scale Amazon Product Review Authors: Tanjim Haque; Nudrat Saber; Faisal Shah
11:15	41	Variety of data in the ETL processes in the cloud: state of the art Authors: Papa Diouf; Aliou Boly; Samba Ndiaye
11:30	79	Blockchain Platforms: A Compendium Authors: Chinmay Saraf; Siddharth Sabadra
11:45	80	Lightweight and robust data collection in a UWSN using a Mobile Sink Authors: Sana Naeem Shaikh;
12:00	83	Validating three different tilt angles for PV modules in a semi-arid region Authors: Pierre Hertzog; Arthur James Swart
12:15	15	Rate-Distortion Modelling of Scalable Video Sequences with Different Complexities Author: Arslan Hassan; Abdul Haseeb
12:30	16	Overcoming Broadcast Storm Problem in a Vehicular Network Authors: Etienne Alain Feukeu
12:45	101	Effects of Seasonal Migration on School Drop-Out of Children in Distt. Tharparkar Authors: Shameem Akhtar, Ayaz Ali, AshfaqueBurdi, Prof. Dr. AshiqueJhatiyal, Ali Raza Zaidi
13:00	**Lunch break And Networking (60 MIN)**	
14:00	102	Corporate Social Responsibility, Insights and Activities of Small and Medium Enterprises in Pakistan Authors: Imdad Ali Bughio, Ali Raza Zaidi, DahshillaJunejo, Muhammad Raza Zaidi
14:15	103	Economic and Social Causes of Child Labor in Karachi,Pakistan Authors: Ali Raza Zaidi, Liaqat Ali Rahoo, Waqas Arain
14:30	105	Design and Analysis of 1-to-4 Wilkinson Power Divider for Antenna Array Feeding Network Author: Faraz Ahmed Shaikh
14:45	106	Analysis & Modelling of Quick Responsive Autonomous UAV Hexacopter: An Implementation of PID Controller Using Inertial Measurement Unit (IMU) Author: Sana Sohail
15:00	107	INTER-DIGITAL SENSOR FOR NON-INVASIVE BLOOD GLUCOSE MONITORING Author: Wan Hafiy Wan Morshidi
15:15	108	The Effect of Web-based Social Networking on Consultancy Humaiz Shaikh
15:30		
15:45		
16:00	**End of parallel Session**	

Abstracts:

0. 1570422147

Robotic exoskeleton Control for 1 DOF lower limb rehabilitation

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Wearable devices such as exoskeletons are being opted frequently during rehabilitation processes for the post stroke recovery. Such devices are playing important role in the development of assistive rehabilitation robotic systems. In this paper three control strategies MPC and LQR and PID are introduced which were applied to 1 DOF lower limb exoskeleton model for passive exercise. The two controls MPC and LQR are model based control which empowers them for stable responses. In this paper the analysis of robustness of control is done under the noisy and disturbance conditions. The results showed good performance of the exoskeleton model with the applied controls in either conditions. In the future work the applied controls will be implemented on a hardware.

1. 1570435387

Security using Image Processing and Deep Convolutional Neural Networks

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Safety has, for a long time, been one big thing everyone is concerned about. Safety from unwanted access and security breach to private locations has become a threat that everyone intends to eliminate. The traditional security systems trigger alarms whenever they detect a security breach. However, the usage of image processing coupled with deep learning using convolutional neural networks for Image identification and image classification helps in identifying a breach in an enhanced fashion as well as in increasing security furthermore to a great extent and providing enhanced security due to its capability and intelligence to differentiate people based on face and body detection algorithms used. The rate at which Machine Learning -especially, deep learning, is transitioning is very high. The use of such technology in taking the existing systems and models to the next level would be a great step towards advancements in every field of science and technology. The same goes with Computer Vision. These two coupled and brought together to be used in the field of security can achieve a lot more than what is expected and we aim to do the same.

2. 1570440430

Social Media used for promoting the Libraries and Information Resources and services at University Libraries of Sindh Province

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The study aimed to identify which social media are used to promote libraries and information resources and services in Sindh Province University libraries. Study was conducted to determine the use of social media to enhance library resources and informatics at the university libraries in Sindh province. The descriptive research method was used for this study. The sample consisted of 37 librarians from whole Sindh province university libraries. The questionnaire was used as an instrument of data collection from selected samples. In the data analysis means and frequency counts were used from collected data. In the study there were two main social media tools were used for library and information resources services promotions which were Facebook and blogs. Findings of the study shows that majority of librarians use social media promotes, two-way communications makes easier and it provide forum for getting fast feedback and increase the library users for usage of library. The recommendation of the study is internet facilities provided in speedy connection of internet. There should be proper ICT policy for university libraries as government authority documents.

3. 1570443087

Rate-Distortion Modelling of Scalable Video Sequences with Different Complexities

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Rate-Distortion (R-D) models are used to estimate the minimum bit rate required for real time Scalable Video Coding (SVC) streams. We propose R-D models for different types of video sequences complexity wise that can be used generally for wired and wireless video transmissions. Models of Base Layer (BL) rate and Enhancement Layer (EL) rate are proposed in parallel with R-D models

for different complex video sequences to achieve more accurate rate predictions. Models are developed with the function of Spatial Index (SI) and Temporal Index (TI) of each Group of Pictures (GOP) in video sequences. We developed an algorithm to estimate the rates required by each GOP in video sequences with different complexities if the distortion is given and vice versa. In our experimental results and comparisons, the graphs of different complex videos show that the calculated rates are estimated closer to the actual rates than the calculated rates of the existing R-D models.

4. 1570443116

Overcoming Broadcast Storm Problem in a Vehicular Network

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Vehicular Ad hoc Network (VANET) has become a very interesting technology for future generation vehicles. This is mainly due to its embedded and promising advantages which primarily include improvement of safety conditions on public road through exchange of critical safety messages amongst involved nodes. The success of VANET heavily relies on successful messages dissemination amongst involved vehicles. However, a successful message exchange can only be possible if the transmission medium is collision free. Under the Intelligent Transportation System (ITS), the cooperative Awareness messages (CAM) have to be transmitted at the rate of 10 Hz as per standard. To account for congestion management, the Distributed Congestion Control (DCC) mechanism was proposed. However, under higher node density, the DDC becomes inefficient and dramatically contribute to the deterioration of the VANET environment. The present work proposes a Dynamic Broadcast Storm Mitigation Algorithm (DBSMA) which can be used to combat the broadcast storm problem in a Vehicular Network (VN). Results from several simulations confirmed that the DBSMA has a potentiality to conquer the effect of broadcast storm by offering more than 150% improved efficiency against the DCC approach. Another advantage of the DBSMA is that it is simple to compute and easy to implement.

5. 1570443346

Particle Swarm Optimization Based Maximum Power Point Tracking for Seawater Battery Application

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Sea water battery is proposed as a renewable energy source in Indonesia, since it is suitable alternative applied for an archipelago country. The salinity of sea water causes the power of seawater battery is going to be changed. Particle Swarm Optimization (PSO) is proposed for tracking the maximum power point of sea water battery. The result shows that PSO can track the maximum power point very well though the salinity changes every time. The average power output with the change of salinity is obtained as 2964 watt for 3 kW seawater battery design.

6. 1570443384

Streamlining mobile app deployment with Jenkins and Fastlane in the case of Catrobat's Pocket Code

Kirshan Luhana, KKL, Christian Schindler, Wolfgang Slany
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This paper describes how we improved speed and reliability for deployment in the case of Catrobat's Pocket Code, a mobile open source project with over 500 contributors and 28k active installs, by moving to continuous deployment. Pocket Code is a mobile app supporting multiple languages including right to left languages such as Arabic, Farsi, and Urdu. This leads to additional repetitive tasks during deployment. The main challenge of a transition to continuous deployment is acceptance tests done by product owners, which in our case, take place as a step during deployment and lead to overall deployment prolongation. Another challenge is the translated application descriptions for the app store for all supported languages which lead to a huge amount of repetitive tasks. Creating screenshots for these languages is tedious and error-prone and further, prolong the deployment. This paper describes how we used Fastlane, a mobile app release framework, in conjunction with Jenkins, a continuous integration server, to improve app deployment in terms of speed and reliability. Deployment steps which are not automatable are moved out of the actual process which is supported by the staged deployment approach of Google Play. The presented approach was also successfully tested with Pocket Paint, another Catrobat app on Google Play, which shows it can be easily transferred to fit other apps supporting multiple languages.

7. 1570443607

Relevant Factors and Classification of Student Alcohol Consumption

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Educational data mining is the process of applying data mining tools and techniques to analyze data for educational purpose. In this paper, we used educational data mining to study the student alcohol consumption through a public dataset which included student attributes and their grades. The decision tree algorithm and the random forest algorithm are applied to perform classification and to

analyze the variable importance. Then, the regression model is employed to illustrate the relationship between alcohol consumption level and the students' final grades. Our analysis yields useful knowledge in terms of the relationship between student characteristics and alcohol consumption. The study also compared performance of the decision tree algorithm and the random forest.

8. 1570443609

Comparison of P&O and Inceremental Conductance Based Maximum Power Point Tracking for Wind Turbine Application in Remote Area

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Gili Genting Island is one of islands located in Madura, East Java, Indonesia. As one of remote area and tourisms places, Gili Genting Island is potential for developing wind power generator to support the population's activities, since the availability of wind exists all year. The study is to support developing renewable energy generation especially wind power generation in remote area. Maximum Power Point Tracking is one of important things to study for increasing the efficiency of the use of wind turbine. P&O and Incremental Conductance (IC) algorithms are studied and discussed to track the maximum power point for wind turbine . The results show that IC is better than P&O to get the maximum value, but has more ripples in the power output tracked.

9. 1570443621

Sentiment Analysis on Large Scale Amazon Product Review

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The world we see nowadays is becoming more digitalized. In this digitalized world e-commerce is taking the ascendancy by making products available within the reach of customers where the customer doesn't have to go out of their house. As now a day's people are relying on online products so the importance of a review is going higher. For selecting a product a customer needs to go through thousands of reviews to understand a product. But in this prospering day of machine learning, going through thousands of reviews would be much easier if a model is used to polarize those reviews and learn from it. We used supervised learning method on a large scale amazon dataset to polarize it and get satisfactory accuracy.

10. 1570443640

Condition based maintenance management system for improvement in Key Performance Indicators of mining Haul Trucks- a case Study

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Condition based maintenance (CBM)is a preventive maintenance management concept that considers the repair or replacement decision based on the normal and abnormal condition of the expensive Heavy earth moving machinery. It requires that any variation in the condition or performance of the equipment stipulates the specific reason for executing the maintenance. Whereas preventive maintenance is maintenance performed on an item to prevent failure. Condition maintenance helps to detect the hidden faults even when mining equipment is in operation and therefore helps the major production loss. Performance of the equipment also gets better as overall equipment efficiency improves due to reduction in the small stoppages and finally the improved utilization of the equipment results into better total production. In manual systems, it is difficult to quickly detect, diagnose and troubleshoot the problem. CBM based system therefore supports to reduce the workshop inventory, breakdown and maintenance time and therefore performs a major role to improve the equipment performance and productivity.

11. 1570443687

GIS-based Mapping Potential Sites for Micro-hydro Power Plants In West Sumatera

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The increased energy demand, global warming and other environmental problems caused by the use of fossil fuels have brought severe challenges to West Sumatera, it's make the government Province has set targets to improve the share of renewable energy in the energy structure and promote the construction of hydropower plants. In this research, we are develops geographic information system (GIS) based clustering. Data was collected from open map-servers and geocoded by open data kit package and data geocoding tools. The Web-based system is designed used a program language of Preprocessor Hypertext (PHP) and Hypertext Markup Language (HTML) which connected to PostGIS database to store the data. The system provides Web-based GIS informed about the

location of potential micro hydro power plant each village in West Sumatera and analyst tool for pattern detection through K-means clustering. The result of this research, through which end users can detect micro-hydro power plant distribution pattern based cluster selecting area, and spatial test parameters, which can be used to know the consumer energy usability in the province of West Sumatera.

12. 1570444110

Time Domain Cyclic Selective Mapping for PAPR Reduction in MIMO-OFDM Systems

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Peak-to-average power ratio (PAPR) is one of the main impairments in multiple-input multiple-output (MIMO) orthogonal frequency-division multiplexing (OFDM) systems. Large PAPR causes inefficiency in the power amplifier (PA) so that the energy consumption of the devices increases. Selective mapping (SLM) has been commonly used as the favorable PAPR reduction technique. Conventional SLM technique has relatively high complexity due to the use of some inverse discrete Fourier transform (IDFT) operations. In addition, it requires to transmit side information (SI) to the receiver. In this paper, we examine the performance of the low complexity time domain cyclic SLM (TD-C-SLM) in MIMO-OFDM systems. TD-C-SLM generates the signal candidates by summing the original OFDM signal and its cyclically shifted version. The signal candidate with the lowest PAPR will be transmitted. This technique requires no SI transmission. Simulation results show that up to 2 dB PAPR reduction can be achieved without increasing the out-of-band (OOB) spectrum by using the TD-C-SLM.

13. 1570445319

Using Support Vector Machine in FoRex Predicting

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The trend of currency rates can be predicted with supporting from supervised machine learning in the transaction systems such as support vector machine. The support vector machine (SVM) models might help automatically to make the transaction decisions of Bid/Ask in Foreign Exchange Market by using Expert Advisor (Robotics). The experimental results show the advantages of use SVM compared to the transactions without use SVM ones.

14. 1570445713

On the Optimization of Kereta Kapsul'S Base Frame Structure

Johan Aliabudi Yahya, I Wayan Suweca
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A local company in Bandung, PT TREKKA, is currently developing a new public transportation system named Kapsul System. The ultimate goal of the development is to obtain a competitive public transportation system in terms of the cost of construction and operation. Kereta Kapsul is one of the product being developed. Preliminary analysis needs to be done to verify the initial design of the Kereta Kapsul. This paper presents the stress analysis and design optimization of Kereta Kapsul's upper structure consisting of a base frame and a body frame. The analysis was conducted numerically using finite element method. The analysis began with geometry and finite element modeling and was followed by the application of loads and boundary conditions in accordance with the standards used. The meshing process was carried out with first-order quadrilateral elements of 10 mm in size for the base frame structure and of 15 mm in size for the body frame. Convergent and valid finite element models were then used as models in further stress analysis. Initial design of base frame failed under compression loading as required by the standards. Design optimization has been done for five iterations and resulted in the last model with a mass of about 1100 kg with minimum safety factor of 2.7 in the worst case loading and of 2.3 on compression loading.

15. 1570445740

Stability analysis of vehicle parameter estimation using Recursive least square with multi forgetting scheme

Worakit Puangsup, Sarawoot Watechagit
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This research is trying to identify the inertia and aerodynamic constant of, as well as the road slope affecting a vehicle for better vehicle modeling and controller design purposes. Since these parameters are time varying, an online identification method is needed. Recursive Least Square (RLS) has been widely used for parameter estimation in engineering applications. Typically, RLS uses the current state and new information to predict the next state. The RLS with multi-forgetting scheme, which can identify the time varying parameters, is adopted here. This paper presents the stability analysis of this chosen identification scheme as it is applied to

the application of interest. The eigenvalue of RLS with multi-forgetting scheme is firstly defined. Its relationship with the forgetting factor is then derived using the final value theorem. It is found that the stability, as well as the rate of convergent for parameters identification depend directly on the value of the forgetting factor. Results from the real time implementation confirm the proposal and the identification performance is as desired.

16. 1570445879

Uplink Channel Estimation for Nonorthogonal Coded Access

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A promising multiple access scheme, which is called nonorthogonal coded access (NOCA), has been proposed for the fifth generation wireless communication systems to achieve higher service quality with limited radio resource provisions. However, uplink channel estimation in NOCA has not been well studied and the perfect channel knowledge has been assumed in the literature. In this paper, the uplink channel estimation for NOCA is investigated including the designs of pilot sequences and the channel estimation algorithms. Furthermore, two pilot patterns are proposed and evaluated in different spreading factors. The simulation results show that the proposed pattern designs enable accurate channel estimation using the pilots generated by nonorthogonal Zadoff-Chu sequences. In addition, a valuable observation is that the channel estimation is more accurate using smaller spreading factors in the case of high overloading.

17. 1570446199

Variety of data in the ETL processes in the cloud: state of the art

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The ETL (Extract-Transform-Load) processes are responsible for integrating data into a place called datawarehouse. In the ETL phase, data are extracted from various sources, they are transformed before being loaded into the datawarehouse. It is then a mandatory step in the decision-making process. But ETL is also a long and costly step in the use of human and IT resources. However, in the context of big data, characterized by 3V (Volume, Variety, Velocity), the speed of processing has become a decisive factor in search of competitiveness. In order to facilitate the implementation of the ETL, a solution is then to use the infrastructures of cloud computing whose resources in computation and storage are "unlimited". This has resulted in considerable progress in terms of availability and scalability for the success of projects. But it remains a major problem: the cost can quickly become prohibitive with "pay-per-use" model of the cloud. It is in this context that we have realized a state of the art on the performance of ETL processes in the cloud in terms of volume and velocity. According to the ETL strategy, in this state of the art, some authors have suggested solutions which use parallelization techniques such as MapReduce and relying on the classical ETL approach while for other, in a big data environment, the use of new ETL strategies is required to face to big data challenges. This study has shown that, despite the many solutions that have been proposed in the literature, the issue of data integration in a big data environment still arises. In addition, ETL tools also have to deal with the heterogeneity of data formats and structures. As our previous work in this area were limited to the volume and the velocity of data, we are going, in this paper, to review studies that have treated variety in big data integration in the cloud.

18. 1570446450

Application of High Efficiency Motors in HVAC System for Energy Saving Purpose

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The standard electric motors have devoted themselves a large share of total energy consumption in the world due to high electric consumption. One of the alternative solution to reduce energy consumption in mechanical systems that have large numbers of motor like HVAC system is using high efficient electric motor. Application of high efficient motor saving in This study presents investigation of energy saving, energy saving cost, payback period, and emission reduction by using efficient motors replacement to standard motors of HVAC system in one hospital in Malaysia (UKMMC). It was found that there can be a total energy savings of 122.5, 120.9, and 99 MWh during the one year by using efficient motors for 50%, 75%, and 100% loads, respectively. Also, it has been estimated that amounts of energy saving cost for different loads are US$12,244, US$12,095, and US$9,893.The best size and amount of payback period, and energy saving, saving cost and emission reduction was found for 50% load.

19. 1570446963

Influence of Soil Conditions on Corrosion Behavior of Buried Coated and Uncoated Carbon Steels

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This paper presents an experimental investigation on influence of soil conditions on initial corrosion behavior of buried uncoated and coated steels at room temperature. Moisture contents and sodium chloride were varied in soil. The techniques used are electrochemical measurements i.e. open circuit potential, electrochemical impedance spectroscopy, and potentiodynamic polarization. The experimental results show that corrosion rate increases up to critical moisture content of 60 wt.% for each soil sample containing 0-10 wt.% sodium chloride. Maximum corrosion rate observed for carbon steel is 1.03 mm/yr for coupled action of 60 wt.% moisture and 5 wt.% sodium chloride. Corrosion rates of zinc- electroplated, and copper- electroplated samples are 0.45 and 0.057 mm/yr, respectively, under the same testing condition.

20. 1570447570

Performance Analysis of OSTBC with Hybrid Decode-Amplify and Forward for Cooperative Communications

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The innovation of Wireless communication has been developed very fast in order to improve the performance of communication systems. Especially, a concept of Multiple Input Multiple Output (MIMO) is purposed to fulfill a high data rate service such as high quality video conference. However, a limitation in size and power of mobile device in the latest version of cellular system i.e. third Generation (3G) and fourth Generation (4G) causes difficulty to implement MIMO on mobile unit. Hence, Cooperative communication has been created to operate as a virtual MIMO in modern wireless communication. The objective of this paper, the performance analysis of Hybrid Decode-Amplify and Forward (HDAF) Cooperative communication using Orthogonal Space-Time Block Code (OSTBC) is derived in term of Symbol Error Rate (SER) against Signal-to-Noise Ratio (SNR) when the system applies different type of modulation techniques. Additionally, the error performance is derived base on Moment Generating Function (MGF) of the Rayleigh fading channel. We only focus on the downlink direction. Assuming that multiple antennas can be equipped into a transmitter which operates as base station in cellular system, mobile unit can be equipped with only single antenna due to the size limitation which operates as relays and destination. Moreover, the receiver uses Maximum Ratio Combining (MRC) to receive the transmitted signal.

21. 1570447715

Dynamic Programming for Solving Unit Commitment and Security Problems in Microgrid Systems

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In order to meet the demand of electrical energy by consumers, utilities have to maintain the security of the system. This paper presents a design of the Microgrid Central Energy Management System (MCEMS). It will plan operation of the system one-day advance. The MCEMS will adjust itself during operation if a fault occurs anywhere in the generation system. The proposed approach uses Dynamic Programming (DP) algorithm solves the Unit Commitment (UC) problem and at the same time enhances the security of power system. A case study is performed with ten subsystems. The DP is used to manage the operation of the subsystems and determines the UC on the situation demands. Faults are applied to the system and the DP corrects the UC problem with appropriate power sources to maintain reliability supply. The MATLAB software has been used to simulate the operation of the system.

22. 1570447876

Power Allocation for Multi-User Downlink MIMO Transmissions

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We consider the problem of robust joint transmitter and receiver power allocation for downlink multiple input multiple output (MIMO) transmissions. The channel model is assumed to be Rayleigh frequency flat fading. The objective of power allocation is to minimize the total mean square error under total transmit power constraint. Under robustness issue, we consider joint power allocation with imperfect channel state information (CSI), where the CSI error is assumed to have Gaussian distribution. We show

that this problem is formulated as a convex optimization problem. Numerical results indicate the BER performance improvement obtained by considering the robustness into account in the joint power allocation process.

23. 1570448426

MASI: Moving to Adaptive Samples in Imbalanced Credit Card Dataset for Classification

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Fraud in financial areas is broadly going to cause significant consequences, in recently. As a result, financial fraud detection is interested in many researchers. The imbalanced dataset in classification might effect to the prediction results as its bias. This might influence on the analysis and understanding of raw data which support decision making process in data domain particular in credit card data domain. In this paper, we propose an improvement algorithm so-called as MASI for financial fraud detection in imbalanced data classification. The experiment is performed on UCI machine learning repository data domain. Our results show the better in sensitivity, specificity, and G-mean values compared to other control methods such as Random Over-sampling, Random Under-sampling, SMOTE and Borderline SMOTE in using classification algorithms (SVM, C50 and RF).

24. 1570448654

E-Health Solutions in Developing Countries: Case of Kuwait

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The application of e-health solutions has brought many opportunities and challenges to developing countries. E- Health solutions have proven quality of health care delivery and services in the industrialized countries. The aim of the current research is to present the unbiased empirical evaluation of end-users towards e-health delivery solutions and services. In an effort to catch up with the growth, the developing countries have strived to revolutionize the health care industry by the uses of innovative solutions such as mobile computing educates people to stay healthy and receive a customized health service. The issues examined include the application of TAM model and Q methodology frameworks to better study both negative and positive views of user adoption factors. Findings of the study revealed that the perceived security risk was the least obstacle. Accordingly usefulness and ease of use domains are the most apparent key factors for the adoption of mobile health application in Kuwait. Consequently, the data analysis produced two factors labeled as "technology readiness" competent and "risk insensitive" users.

25. 1570449071

STATS - Software Component Trend Analysis Over Time Series

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Through initiatives such as open sourcing, software development organizations have embraced component reuse. Inner sourcing, in which organizations reuse internally created components, is gaining interest. Large companies such as Philips, PayPal and Ericsson have embraced inner source initiatives. Software components reuse can significantly reduce software development and testing time. A challenge when reusing components is to gauge their quality and projected reliability over time. Minor component changes can create unforeseen complexities. This work proposes STATS - Software Component Trend Analysis Over Time Series, a self-directed artificial neural network which uses historic performances to predict the performance of inner source components over time. Using time series-based learning instances, STATS can aid in the prediction of component trouble reports based on historic knowledge. This is accomplished through the history of components trouble reports over varying time series. Using STATS, system architects and developers predict the reliability of candidate open source and inner source software components in the medium and long term.

26. 1570449941

Theoretical modelling for experimental study of Solar Still with Integrated Built-in Condenser

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Solar distillation is regarded by many researchers as one of the important methods of utilizing solar energy to solve water scarcity problems mainly in arid areas where solar energy is abundant and water resources are limited. The main drawback of the solar desalination using solar stills is its low efficiency and production rate. Researchers have been focusing on ways and means to enhance the productivity rates of the solar stills. The authors previously investigated experimentally the effect of incorporating passive built-in condenser into a conventional solar stills productivity rate. This study a theoretical model has been developed and analyzed to predict different parameters governing the production rate of the conventional solar still with incorporated built in condenser. The

model calculates the hourly production rate, the accumulated production rate, the saline water, the still basin, the glass cover temperatures and the steel condenser temperatures. The predicted values were analyzed and compared with the experimental results The results showed a good agreement with experimental results. The trends of the theoretical and experimental results agree well. The theoretical enhancement of the condenser follows those of the experimental results.

27. 1570450160

Design and Analysis of High Gain Modified SEPIC Converter for Photovoltaic Applications

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In designing photovoltaic systems connected to the grid system usually DC-DC converter is required to increase the output voltage of the photovoltaic. The most commonly design of DC-DC converters are typically used a converters with high gain static in order to increase the output voltage of the photovoltaic and obtain a high conversion efficiency. One type of converter used is a SEPIC converter topology. However, the conventional DC-DC converter topologies such as SEPIC converters can only increase by 5 times of the input voltage when the Duty Cycle is set to 0.82. Meanwhile, to meet the dc input voltage of the inverter, the input voltage of the converters have to increase above than 10 times. Therefore, to overcome these problems, this paper proposes the design of DC-DC modified SEPIC converter topologies for photovoltaic applications. Modifications to the conventional SEPIC converter is done by adding capacitors and diodes. From the experimental results shows that this converter can increase the output voltage about 10 times and has the efficiency about 91.5%. Furthermore, topology of the this converter can be effectively applied for photovoltaic system.

28. 1570450380

The future of data privacy & security concerns in Internet of Things

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A global, immersive, invisible, ambient network-computing environment built through the continued proliferation of smart sensors, cameras, software, databases, and massive data centers in a world-spanning information fabric known as the Internet of Things. The idea is to live in connected world. Altogether varieties of connected objects from smart home appliances like televisions, laundry machines, thermostats, refrigerators to Industrial Internet of Things (IIoT) and Internet of Medical Things (IoMT) are going to conserve the potential of IoT connectivity in all paces of future smart world. However, it has high importance to preserve adherence of enormous benefits of IoT connectivity, which might lead to unseen security and privacy issues and vulnerabilities that will cause various malicious attacks including waterhole, ransomware, eavesdropping, and others to exploit the potential of smart objects. This paper will present and forecast advanced concepts for end-to-end security and privacy issues in a highly distributed, heterogeneous and dynamic network of IoT devices, which may reveal a holistic approach of device identification, authentication, and management, security, and privacy concerns.

29. 1570450638

Customer Satisfaction in Commercial Bank of Sindh Province A Case Study of Bank AL Falah

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The main concern of a bank is customer satisfaction. Every bank strives to achieve customer satisfaction. A satisfied customer becomes the positive word of mouth for the bank. The purpose of this research is to find out customer satisfaction in commercial banks, particularly in Bank AL Falah. Data was collected through a questionnaire from 150 customers of Bank AL Falah in Hyderabad. Microsoft Excel was used for data analysis. The result concludes that customers perceives higher satisfaction, and the environment and commitment and behavior of staff with customers have a major impact on customer satisfaction.

30. 1570450646

Information Seeking Behavior of Research Scholars at MUET Library & Online Information Center, Jamshoro: A Study

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The aim of this paper was to study the behavior of the information seeking by the researcher scholars of the at Mehran University of Engineering & Technology, Jamshoro, Sindh Pakistan.The overall purpose of the research study was to find out the awareness and information requirements by the researcher for the research purposes which were provided by the Higher education commission

digital library. The data was collected from 230 researchers with the help of questionnaire through the Google online form. Data was analyzed in SPSS software. Research findings were majority of researchers were use electronics resources, text books and reference books. Another major finding was students facing the problems to access the electronics resources for information seeking so they need the proper guidance for data which support them in the research.

31. 1570450692

Plant Disease Detection Using CNNs and GANs as an Augmentative Approach

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Almost 40% of the world's crop yield is lost to diseases and pest infestations. According to a 2012 survey, Maharashtra has the highest rate of farmer suicides and one of the major reasons for this is the failure of crops. We present an image-based classification system for identification of plant diseases. Since existing datasets have diluted focus across several countries and there are none that pertain to India specifically, there is a need for establishing a local dataset to be of use to Indian farmers. We use Generative Adversarial Networks (GANs) to augment the limited number of local images available. The classification is done by a Convolutional Neural Network (CNN) model deployed in a smart phone app.

32. 1570450782

Experimental Characterization of a Tactile Sensor for Surgical Applications

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This paper presents an improved piezoelectric sensor fabricated using reduced graphene oxide (rGO)-filled polydimethylsiloxane (PDMS) elastomer composite that is able to sense the linear force applied onto its surface. The ultimate aim is to develop a haptic feedback interface for assisting surgeons in minimally invasive robotic surgery. A major challenge in robotic surgery systems is the lack of tactile feedback. Clinicians typically receive the visual information only about their surgical scene via the cameras. However haptic feedback can improve the feedback information for clinicians and ultimately the surgical outcomes by aiding surgeons to differentiate between different tissue types as well as tactile feedback gives them the real feel of surgery (i.e. as performed with traditional open surgery). The results presented in this paper demonstrate that the sensor developed from graphene-filled PDMS can give robust and accurate force feedback that can be utilized as haptic feedback in further study. This paper illustrates two methods for characterizing the fabricated sensor in order to obtain force profile for a force range of 0.5 N - 20 N. The main feature of the fabricated sensor is that it can be manufactured into any shape and size. It also gives compatibility for implementing the sensor externally over a robotic surgery solutions.

33. 1570451076

Blockchain Platforms: A Compendium

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In recent years, cryptocurrencies gained popularity with Bitcoin. The main promising technology behind Bitcoin was 'Blockchain'. Blockchain provided unique features like transactional privacy, system transparency, immutability of data, security with cryptography, etc. These features paved way for Blockchain in advancing many technologies like voting systems, IOT applications, supply chain management, banking, healthcare, insurance, etc. Blockchain development was boosted with the increasing demand of the technological update. Many blockchain platforms are available like hyperledger fabric, ethereum, corda, etc. We always end up with perplexity while choosing a platform for blockchain development. Through our survey, we provide a comparative analysis of all the hyperledger platforms, ethereum, corda to make a choice of the platform easily according to the requirement.

34. 1570451079

Lightweight and robust data collection in a UWSN using a Mobile Sink

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An Underwater Wireless Sensor Network has different characteristics as compared to those of a terrestrial one. These networks are vulnerable to a number of issues such as mobility of deployed nodes, communication delays due to unique deployment environment,

limited bandwidth, etc. In this paper we present a novel lightweight and robust data collection strategy in underwater wireless sensor networks using a mobile sink to boost the performance and overall lifetime of the UWSNs. The proposed technique has been simulated using AquaSim to analyse the performance with respect to energy consumption, network throughput and packet delivery ratio while highlighting the vulnerabilities and challenges involving data aggregation in a UWSN.

35. 1570451080

An Image Processing Approach for Coffee Black Beans Identification

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The quality of a coffee bean is determined by several factors including color, texture, and size. High quality beans are carefully refined where defects, such as black beans, are removed. The assessment through visual inspection may be subjected to external factors such as light and the amount of beans to be inspected. This study presents a method of controlling the coffee bean quality using Image Processing techniques. Normal beans are identified through the extraction of RGB color components of training image. The RGB values were integrated in an image processing formula that eliminated the black beans in the image. Using the approach in this study, a classification of 100% were achieved for eliminating the black beans in the testing images.

36. 1570451082

Differentiation Among Coffee Bean Species Using Image Processing, Artificial Neural Network and K Nearest Neighbor Classifiers

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The quality of coffee beans differs from each other based on the geographic locations of its sources. The coffee bean quality is conventionally determined by visual inspection, which is subjective, requiring considerable effort and time and prone to error. This calls for the development of an alternative method that is precise, non-destructive and objective. This research was conducted with the objective of developing an appropriate computer routine that can characterize coffee beans from the different towns of Cavite, Philippines. Imaging techniques were employed to automatically classify the coffee bean samples according to their specie. Important coffee bean features based in morphology such as area of the bean, perimeter, equivalent diameter, and percentage of roundness were extracted from 195 training images and 60 testing images. Artificial neural network (ANN) and K nearest neighbor (KNN) were employed to automatically categorize the coffee beans. Using ANN, classification scores of 96.66% were achieved while using KNN the following classification scores were achieved 84.12%(k=1), 84.10%(k=2), 81.53%(k=3), 82.56%(k=4), 75.38%(k=5),80.35% (k=6), 38.79%(k=7), 77.44%(k=8), 72.82%(k=9) and 78.45% (k=10). In conclusion, the results of this study have revealed that imaging technique could be used as an effective method to classify coffee bean species. ANN is the more preferred method over KNN in classifying coffee beans.

37. 1570451089

Validating three different tilt angles for PV modules in a semi-arid region

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Repeated testing of any construct in research is essential, as it reinforces knowledge, promotes validity and enables its successful use in other applications. The purpose of this paper is to present results of repeatedly testing the impact that three different tilt angles have on the output power of a PV module in a semi-arid region of SA, thereby contributing to absolute validity. An experimental design is used with a longitudinal study cover 2015 through 2017. These three years of results for the winter season reveal that the PV module which was set to a tilt angle of $\varphi + 10°$ produced the highest yield of output power. It can thus be recommended that PV modules be mounted at $\varphi + 10°$ for the winter time period in semi-arid regions of South Africa and that the setup and procedures used in this study are valid.

38. 1570451104

Application of Quality Function Deployment in Product Improvement of Power Strips

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Many organizations aim to improve their performance in customer satisfaction with a product due to competition between organizations in an industry. Bangkok Cable Co., Ltd. also wants to gain a competitive advantage. In this research, the conversion

of qualitative techniques (Quality Function Deployment) is used to develop and improve power strips, which are the products of Bangkok Cable. The power strips are developed according to customer requirement by using the matrices of QFD technique: (1) Product Planning and (2) Design Deployment. The developed and improved prototypes are evaluated by a group of product customers. The results of this study reveal that the average satisfactory values of all new prototypes compared with the old products are respectively increased from 3.31 to 3.61 and 3.72 points or increased about 9.31% and 12.43%, and the percentage of satisfaction compared with competitors are increased from -7.17% to 1.47% and 4.38%, respectively.

39. 1570451121

A Survey of Soft Computing Applications in Global Software Development

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Global software development is an example of the modern age. Team members split geographically, working in different time zones, communicate simultaneously and exchange information regardless of physical boundaries and time difference. Different organizations are distributing their software development processes on national and continental lines. Team members work across space, time and organizational boundaries with links strengthened by webs of communication technologies. In order to obtain robust solutions at reasonable costs in different software development processes like software reliability, quality, maintenance, effort and different project management activities, different researchers used soft computing techniques. In this paper several existing research articles are reviewed that deal with the applications of soft computing in software development areas and provides future research directions.

40. 1570451127

Soft Computing Applications in Education Management - A Review

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Over the past two decades, there has been an increase in the research being carried out on how to effectively manage education and educational institutions. It is because of this trend, that a lot of universities around in the world including in developing countries such as Pakistan have started MBA education management as well as Master of Education Management programs. Artificial intelligence (AI) and soft computing (SC) techniques are being applied in different facets of our lives for solving real-life problems. This paper reviews available literature and discusses applications of various soft computing techniques in education management and identifies future research opportunities in this area.

41. 1570451155

Rate Adaptive Cooperative Multichannel Directional MAC Protocol for Ad Hoc Networks

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Data rate adaptive cooperative multichannel directional medium access control (RA-CMDMAC) protocol is proposed here for wireless ad hoc networks. To address the deafness and hidden node problems, existing directional multichannel MAC requirements include- network-wide synchronization, multiple radios, cooperation among nodes etc. However, such features mostly experience with large overhead, higher delay and lower throughput. RA-CMDMAC is an asynchronous single-radio protocol targets to solve those mentioned problems using variable directional data transmission range and data rates. In compare to recent context, proposed protocol shows a significant improvement in terms of reducing overhead, transmission delay and enhancement in throughput issues.

42. 1570451182

Traffic Adaptive Channel Utilization Based Medium Access Control Protocol for Cognitive Radio Network

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The increasing rate of wireless devices pressurizes the researchers to think about an opportunistic bandwidth utilization of the licensed bands. As a result, the concept Cognitive Radio Network (CRN) having Primary user (PU) and Secondary user (SU) has been evolved. However, the challenges of CRN basically includes successful channel rendezvous. As of now, most of the protocol either used common control or synchronization approach, where bottleneck and unavailability of control channel might occur due to presence of PU. Furthermore, once channel rendezvous is successful traffic adaptive channel utilization in medium access design is missing in existing works. Therefore, motivating with the mentioned limitation in this paper, we have proposed a Traffic Adaptive Channel Utilization based Medium Access Control (TACU-MAC) for CRN. The protocol targets to make successful and fast channel

rendezvous as well ensure channel utilization rate in data transmission. Extensive analysis and simulation has demonstrated that traffic addictiveness of the proposed work has ensured better rendezvous success rate, lower rendezvous delay, higher throughput and transmission success rate.

43. 1570451185

An Approach towards Developing Tower of Hanoi Sequence Based Distributed Multi-Channel Parallel Rendezvous for Ad Hoc Networks

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In recent days parallel rendezvous for multi-channel medium access seems to be a prominent technique, that includes both fast and slow procedure for channel rendezvous using half-duplex radio. Usually in slow procedure, a node (typically while receiving) switches from one channel to another very slowly, whereas the same node (while attempting for transmission) switches to another channel very quickly. Motivating with the idea of parallel rendezvous, this paper proposes a Tower of Hanoi (ToH) sequence based distributed multi-channel rendezvous procedure for wireless medium access operation. The proposed approach increases the possibility of channel rendezvous amongst wireless nodes and decreases the congestion problem due to failure of proper channel rendezvous. Furthermore, ToH sequence needs less iteration time for rendezvous among the nodes in compare to Pseudo Random Sequence (SRS) based channel swithching. The proposed work is modeled and analyzed and the performances provide a better result than pseudo random sequence-based approach.

44. 1570451257

Lithium Recovery from Bledug Kuwu Mud Volcano Using Water Leaching Method

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Bledug Kuwu of Mud Volcano was investigated by water leaching for lithium recovery in Indonesia deposit.. Mud volcano can be used as an alternative resources beside minerals and brine because lithium trapped by geothermal phenomenon. Bledug Kuwu Mud is dominated by Aluminium-Silica Clays and lithium can be found in Li-Montmorillonite phase of Clays. The mud sample which treated in the experiment contains 0.0029% lithium on wet condition. Water leaching was done by adding 500 ml water into the mud to make its ratio become 1:2. The leaching was performed in mixer settler under ambient and low temperature (45 oC) for 2, 3, 4, 5 hours. Lithium, Sodium, Potassium, Calcium, and Magnesium which analyzed by Inductively Coupled Plasma, they were abundant element in the brine composition as the filtrate. As increasing temperature, the recovery percentage of lithium was decrease. Water leaching can recovered up to 80% lithium on Clays for ambient and lower temperature. X-Ray diffraction shows that Li-Montmorillonite didn't detect in the dried mud of residue for all experiment. Scanning Electron Microscope used to determine morphology modification of clays after water treatment at different temperature. Furthermore, brine can be used for brine resource on the next lithium processing.

45. 1570451288

Optimization of Microwave Heating Parameter for TiO2 Extraction Process From Iron Sand Indonesia

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Microwave heating is environment-friendly technology which is able to reduce titanomagnetite into TiO2 or titanium metal caused by CO2 gas does not vacate the furnace. Titanomagnetite is one of the phases contained in Iron Ore with small amount of titanium (less than 10% Ti). This study aims to get a value of optimal parameter on microwave heating for TiO2 extraction with different power levels and reductor composition. The method used consists of a magnetic separation,oxidation,reduction process using Microwave Batch Furnace reactor, and hydrochloric acid leaching. Titanomagnetite that oxidized at 1100oC temperature for 4 hours in muffle furnace have phase changed into hemoilmenite (pseudorutile + hematite) with power level is 650 Watt. As the antenna helix added on to design of Microwave Batch Furnace, gain from the heat irradiation become higher to ~34.7 dB. The power level used is 650 watt on variety graphite:iron ore composition are 3.05:0.6, 3.05:1, and 3.05:1.4, thus the best reduction product is processed further by leaching in 20% chloride acid with 1:6 (S/L ratio). X-Ray Diffraction and X-Ray Fluorense test is used to determine the effect of oxidation, reduction, and leaching process on Iron Ore. Results show that graphite has effect to TiO2 separation from titanomagnetite phase. As the addition of graphite increases, yield process that represented by recovery TiO2 becomes higher to 4.6% Ti. Microwave adsorption confirmed by using Vector Network Analyse. The amount of microwaves adsorption that represented from S-parameter has increased with the addition of graphite to level 3.05:1. The optimal parameter is resulted in 3.05:1 composition ratio and used 4000 watt power.

46. Effects of Seasonal Migration on School Drop-Out of Children in Distt. Tharparkar

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The purpose of this study is to assess the effects of seasonal migration on child schooling especially in context of child drop out ratio in district Tharparkar, which has the highest dropout rate as compared to other districts of Sindh province. The sample was selected from, talukas, union councils and villages of district Tharparkar. Logit binary regression model was applied to analyze the collected data. Study results depict that, seasonal migration, beside other characteristics such as; family size, family having land, girl child, boy gild, child work, children never go to school, hospital distance, city distance, metaled road distance, children in primary school, children in middle school, children in high school has major impact on school dropout ratio. Therefore, to address the school dropout issue, government and policy makers must work on seasonal migration(s) in distt. Tharparkar and create economic resources and opportunities for these migratory families. Once families have enough resources at their villages they will have no reason to migrate or relocate unnecessarily. When families are at their own villages for whole year, it will insure children's presence at schools that will ultimately reduce the dropout ratio in schools.

47. Corporate Social Responsibility, Insights and Activities of Small and Medium Enterprises in Pakistan

Imdad Ali Bughio, Ali Raza Zaidi, DahshillaJunejo, Muhammad Raza Zaidi

Corporate social responsibility (CSR) has become a popular trend in the world business for sustainable evelopment in developed countries and has yet evolved in developing countries, particularly in Pakistan. Studies about CSR practices in Pakistani context remain scarce, especially in the backdrop of small-and medium-scaled enterprises (SMEs). Most of the enterprises do not have sufficient understandings of CSR butpossess a variety of perceptions due to different business contexts. The study aims at examining the perceptions and practices of CSR implemented by SMEs in Pakistan. Theoretical framework provides a debate of CSR's pyramid in developed countries which are established by dynamics of economic, legal, ethical, and philanthropic responsibilities. It argues that CSR practices in developing countries are formed by a shift of economic and legal responsibilities, which are found dominant in developed countries, into philanthropic responsibilities due to country-specific contextual determinants. The study employs Qualitative research method that focuses on Grounded theory to theorize the CSR phenomena based on semi-structured interviews with enterprise' representatives, reports, websites, and researcher's personal observation. The study findings suggest that understandings and practices of CSR in Pakistan are similar to such dimensions in developed countries, which are driven by economic and legal aspects and are influenced by external environment such as market segments where SMEs sell their products. Meanwhile, environmental responsibilities are found evolving in CSR practices because of government regulations and market requirements. The study concludes some implications and recommendations for promoting CSR in small and medium-scaled business organizations in the country towards sustainability.

48. Economic and Social Causes of Child Labor in Karachi,Pakistan

Ali Raza Zaidi, Liaqat Ali Rahoo, Waqas Arain

This research identifies important economic and social determinants of child labor, taking grassroots level data on the working children of Karachi City of Pakistan. Working conditions and their impact on child health are also identified. The variables like fertility, adult literacy and schooling system etc., are empirically examined. The analysis shows that poverty is the primary cause of child labor in the city while other factors such as family size, adult illiteracy and schooling system also contribute to the supply of child labor. The situation is comparatively less serious for female child labor, showing the importance of traditional factors, which restrict females from working outside their homes. The social system of the area does not allow female children to work outside the home. Therefore, female child labor is not wide spread in the city, which is contradictory to the findings of the national survey on child labor. Thus, national surveys do not accurately represent regional child labor by gender. The present study has been carried out in an area where child labor is wide spread. Moreover, large family size and poor schooling are also keeping children away from school since parents think that poor quality education does not add to the children's ability to improve their productivity. Additionally, working conditions for the children were analyzed. The children work for the longest hours and are the worst paid of all labourers in the city. The results indicated that working conditions were poor and dangerous and harmed children by ruining their eyesight, bone deformations, chronic lung diseases, and sometimes resulted in the death of children. In addition, the attitude of the bosses was also harsh towards young child labors. These outcomes call for an effective policy to eliminate poverty. The policy requires spreading literacy and introducing effective and quality education that can lead to skill training, which in turn improves the productivity of children. Poor parents' income may also be compensated to successfully eliminate childlabor. Population control prograssmmes need to be made more effective to control family size. Such programmes may be introduced through schools and adult literacy programmes.

49. 1570305

Impact of Technology on the Security of the StatesAbstract

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Advancement in information and communication technology has brought a revolutionary change around the world. The impact of technology has left tremendous impact on the every aspect of life in variety of ways. It has become integral part of all types' interactions. Similarly, relations among the states and their affairs have also been shaped and influenced by the influence of technology. On the one hand technology has facilitated two way interaction between states and played significant role in the economic development of the countries. On the other hand, it has created friction among nations in their pursuit of security, development and progress. Additionally, it has created number of challenges for the states to deal with. One of such major challenges is the threat to the security of a states. Contrary to the traditional defence system, compelled by the changed security environment, every states has drastically revised its defence policy. Hither to, states relied on the traditional forces for maintaining their defence. But now, no state can afford to rely on the old methods of defence. Thus, in order to cope with the emerging security challenges posed by the technological implications, States have modernised their militaries resulting in arms race, military build ups, with consequent impact on their economies. This paper will discuss the impact of technology on the relations of states in general and the resultant security challenges that technology has created for the modern states to face. The paper will also discuss the future of states under the influence of technology. Before conclusion, paper will suggest some measures to address the security challenges brought out by technology.

50. Pocket Code Build Variants

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This case study is about Pocket Code's build variants. Pocket Code is a free and open source integrated development environment (IDE) for the brick based visual programming language Catrobat. It is released in various flavors for different partners and projects (e.g., Create@School, Phiro, and Standalone). All flavors use the same code base but slightly different in design and functionality. If different flavors are maintained as separate projects, all projects require proper maintenance. Any feature introduced or updated in one project must be ported to all others, for that they don't diverge. With an increase in the number of flavors, efforts to maintain will also increase which renders the project unmaintainable. If all flavors are maintained in one project, it is challenging to release more than one version of an application with a different set of functionalities and different UI enhancements. In this paper, Pocket Code's different build variants are discussed particularly the standalone build variant. To build a standalone version of an app hosted on the Pocket Code sharing platform, the user has to trigger the build via the web interface on the remote Pocket Code server. Resource files and app configuration are generated based on user input. This paper can be of interest to organizations dealing with dynamic build variants triggered by external actors or making user files executable as independent software by encapsulating the main program.

51. Design and Analysis of 1-to-4 Wilkinson Power Divider for Antenna Array Feeding Network

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In this paper, A Novel 1 to 4 modified Wilkinson power divider operating over the frequency range of (3GHz to 8 GHz) is proposed. The design perception of the proposed divider based on two different stages and printed on FR4 (Epoxy laminate material) with the thickness of 1.57mm and ϵr =4.3 respectively. The modified design of this power divider including curved corners instead of the sharp edges and some modification in the length of matching stubs. In addition, this paper contain the power divider with equal power split at all ports, reasonable insertion loss, acceptable return loss below -10 dB, good impedance matching at all ports and satisfactory isolation performance

has been obtained over the mentioned frequency range. The design concept and optimization development is practicable through CST simulation software.

52. Analysis & Modelling of Quick Responsive Autonomous UAV Hexacopter: An Implementation of PID Controller Using Inertial Measurement Unit (IMU)

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The utilization of autonomous drones has extensively expanded in the most recent decade. The benefits of using flying robots is its efficiency, incorporating limiting in size, power and helpful in disaster management. The present research work offers insight to the design, analysis and testing of self-sustaining hexacopter. It consists of six arms with similarly dispersed rotors. The adjustment in motors output brings about change of hexacopter dynamical parameter. The landing mechanism is monitored by the usage of gyroscope and accelerometer without image processing. The altitude value is monitored and the speed of the motor is decreased accordingly. Experimental results showed the balance between robustness, weight, speed, stability and flight time. It has various applications ranging from military to surveillance. It is used in places where humans can't reach. Hex-copter is also used for photography and media coverage.

53. INTER-DIGITAL SENSOR FOR NON-INVASIVE BLOOD GLUCOSE MONITORING

Wan Hafiy Wan Morshidi, Zarimin Zaharudin, Sheroz Khan, Anis Nurashikin Nordin, Faraz Ahmed Shaikh, Ismail Adam, Kushsairy Abdul Kader
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This paper is to describe a contemporary approach of microwave spectroscopy by adapting the interdigital capacitor sensor in estimating the glucose levels in blood through the electromagnetic properties change. Interdigital capacitor configuration has been implemented in various field of applications nowadays such surface acoustic wave (SAW) equipment, microwave devices, chemical and biological sensors. Such a wide area of applications has proven it to be a reliable device, which can be applied in non-invasive blood glucose monitoring system. Focus of this ongoing work is to study the analytical expression for calculating the capacitance and electric field changes of the suggested inter-digital capacitor structure. This also involves the study of parameters, which affect the frequency response changes in the proposed configuration and to present a model of biological tissue. Moreover, the dependency of the capacitance on the geometrical properties of interdigital capacitor structure, electrical properties of the structure as well as those of the human biological tissue are being examined in this project. Production of a sensor based on capacitive sensing, which can be used for the non-invasive approach of blood glucose monitoring is the main target of this paper. The results include reporting changes in parameters such as relative permittivity because of blood sugar.

54. 1570450851

The Effect of Web-based Social Networking on Consultancy

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Social networking has become a fact that we cannot live without even if we try. It has become a day to day activity or even yet a chore. Where we share our life experiences. We have all become its slave! Social networks bring many benefits to the user and the world at large. These advantages from an expert perspective include sharing of information, collaboration, promote products and services, building a group community, donations etc. This paper provides a review of the Effect of Web-based Social Networking on Consultancy.

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