ICAETCMT-19

International Conference on Advances in Engineering, Technology and Contemporary Management Trends

Kathmandu, Nepal

20th September, 2019

Organized by:

Lord Buddha Education Foundation (LBEF)

&

Patan College for Professional Studies (PCPS)

In Association with:

Institute For Engineering Research and Publication [IFERP]

Preface

The ***"International Conference on Advances in Engineering, Technology and Contemporary Management Trends (ICAETCMT-19)"*** is being organized by ***Lord Buddha Education Foundation and Patan College for Professional Studies,*** Kathmandu, Nepal in association with ***IFERP-Institute for Engineering Research and Publications*** *on 20th September, 2019.*

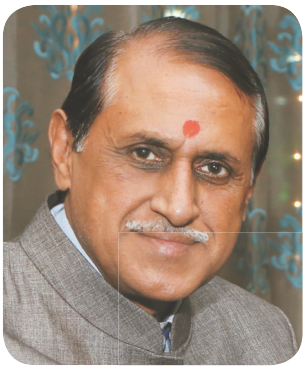
The ***"International Conference on Advances in Engineering, Technology and Contemporary Management Trends"*** was a notable event which brings Academia, Researchers, Engineers, Industry experts and Students together.

The purpose of this conference is to discuss applications and development in area of **"Engineering, Technology and Contemporary Management Trends"** which were given International values by ***Institute for Engineering Research and Publication (IFERP).***

The International Conference attracted over 60 submissions. Through rigorous peer reviews 38 high quality papers were recommended by the Committee. The Conference aptly focuses on the tools and techniques for the developments on current technology.

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

ICAETCMT-19



Message from the Founder

Sri P.Kejriwal
Founder,
LBEF Group of Institutions

With a pledge to make a successful rise in the highly competitive world of Science, Engineering, Technology and Management, LBEF Group of Institutions organizing 1st International Conference on Advances in Engineering, Technology and Contemporary Management Trends (ICAETCMT-19) on 20th September 2019 at Kathmandu Nepal.

In order to face various emerging challenges in different fronts of knowledge acquisition and dissemination in various fields, it has become indispensable to explore multifarious integrated and interdisciplinary approaches for problem identification and solutions.
I am sure that this conference would serve as a platform to connect various academicians, researchers, scholars and industry professionals to go beyond borders in search of new frontiers in researches of the millennium and as well to show case their innovations and findings.

Sincerely,

Parmanand Kejriwal

Sri P. Kejriwal
Founder,
LBEF Group of Institutions

LBEF CAMPUS CELEBRATING 20 YEARS 1998-2018
THE FIRST IT COLLEGE OF NEPAL

PATAN COLLEGE for Professional Studies

Lord Buddha Education Foundation & College for Professional Studies
Opp. Maitidevi Temple, Kathmandu, Nepal
Tel: 01-4444356, 01-4411805
Web: www.lbef.edu.np

Patan College For Professional Studies
Behind Kandevatasthan, Kupondole, Lalitpur
Tel: 01 5181033/ 5181198
Web: www.patancollege.edu.np

Rudra Bhanu Satpathy,
Chief Executive Officer
Institute For Engineering Research and Publication.

On behalf of ***Institute For Engineering Research and Publications (IFERP)*** and in association with ***Lord Buddha Education Foundation*** and ***Patan College for Professional Studies,*** Kathmandu, Nepal. I am delighted to welcome all the delegates and participants around the globe to ***Lord Buddha Education Foundation and Patan College for Professional Studies, Kathmandu, Nepal*** for the ***"International Conference on Advances in Engineering, Technology and Contemporary Management Trends (ICAETCMT-19)"*** Which will take place on ***20th September'19***

Transforming the importance of Engineering, the theme of this conference is ***"Engaging Minds, Empowering Research"***

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

I congratulate the reviewing committee, coordinator **(IFERP, LBEF & PCPS)** and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at ***Kathmandu, Nepal***

Sincerely,

Rudra Bhanu Satpathy

Message from the Patron

Er. Pankaj Jalan
Chairman,
LBEF Group of Institutions

Welcome to the ICAETCMT-19 Kathmandu Nepal!
LBEF Group of Institutions is privileged to host 1st International Conference on Advances in Engineering, Technology and Contemporary Management Trends (ICAETCMT-19) on 20th September 2019 at Kathmandu Nepal which aims to share the ideas in globally trending technologies in Engineering, Technology, Management and many more. We intend to promote discussions of research and relevant activities in the design of robust solutions to engineering, science and technology related problems. Also, this conference aims at increasing the synergy between academic and industry professionals working in this area. The theme of the conference indeed attains importance in the millennium as it will help academicians, researchers and scholars to demonstrate the key issues prevalent in technological advancements happening worldwide in industrial, manufacturing and service sector.

I encourage all academic fraternity and industry delegates to make this significant event part of your professional development and we look forward to welcoming you to the ICAETCMT-19.
We sincerely hope you will enjoy your stay in Kathmandu!

Sincerely,

Er. Pankaj Jalan
Chairman,
LBEF Group of Institutions

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Message from the Patron

Er. Prakash Kumar
Executive Director
LBEF Group of Institutions

On behalf of LBEF Group of Institutions, I wish to extend a warm invitation to be a part of the 1st International Conference on Advances in Engineering, Technology and Contemporary Management Trends (ICAETCMT-19) to be held on 20th September 2019.

The key motive of ICAETCMT-19 is to provide a world-class platform for the global participants to share their ideas and experience in person with their peers expected to join from different parts of the world. In addition, we firmly believe that this scholarly gathering will help the delegates to establish research or business relations as well as to find international linkage for future collaborations in their career path. ICAETCMT-19 will provide an outstanding platform to refresh your knowledge and to explore various innovations taking place in industry and academia. This conference will strive to provide you an opportunity to interact and share your ideas with scientists, researchers and researchers across the world.

We hope that ICAETCMT-19 outcome will lead to significant contributions to the knowledge base in these up-to-date scientific fields in scope.

Sincerely,

Er. Prakash Kumar
Executive Director
LBEF Group of Institutions

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Message from the General Chair

Prof. (Dr.) Sandeep Kautish
Dean Academics
Lord Buddha Education Foundation

I am delighted to welcome you all to the 1st International Conference on Advances in Engineering, Technology and Contemporary Management Trends (ICAETCMT-19) which brings together the researchers and academicians from all around the world. This International Conference is dedicated to work with researchers and industry professionals in Information Technology field.

The conference would not have been possible without the enthusiastic and hard work of a number of organizing committee members who worked hard to make this conference a success. Such activities heavily rely on the contributions of many volunteers, and I would like to acknowledge the efforts of our committee members and referees and their invaluable help in the review process. I am also grateful to all the authors and listeners who trusted the conference with their work.

I look forward to an exciting week of insightful presentations, discussions, and sharing of technical ideas with colleagues from around the world. I thank you for attending the conference and hope that you enjoy your visit.

Sincerely,

Sandeep Kautish

Prof. (Dr.) Sandeep Kautish
Dean Academics
Lord Buddha Education Foundation

ICAETCMT-19

International Conference on Advances in Engineering, Technology and Contemporary Management Trends

Keynote Speakers

BIOGRAPHY

Prof. S. K. Singh who is Doctorate having key Research of Interest in Environmental Engineering/ Water Pollution Control /Water Resource Management and currently working as “Professor & Dean (AA) in “Department of Civil and Environmental Engineering“ at Delhi Technological University (formerly Delhi College of Engineering). Received a Prestigious awards of “Unnat Bharat Sewashri Award “ by 2019 and “Dr A.P.J Abdul Kalam Memorial Award”in 2018. In Additional he is also a member of Significant Authorities in Journals of National and International like International Journal Environmental Technology, Journal of Engg. & Tech. and Journal of Scientific research and Reports, USA. Still now he has published 209 papers and 126 papers in International Journals with 60 Research Projects completed. Apart from this having administrative experience as”Dean”in Administration, International collaboration, Alumni Affairs and so for leading the institutional works as well as students welfare.

BIOGRAPHY

Prof. Dr. Subarna Shakya holds Ph.D. in Computer Engineering from Lviv Polytechnic National University, Ukraine. He served as Executive Director at National Information technology Center, Government of Nepal and also head of Department of Electronics and Computer Engineering, Director of Center for Information Technology and Chairman of Electronics and Computer Engineering Subject Committee, Institute of Engineering, Tribhuvan University. He has also served as coordinator of EURECA (European Research and educational collaboration with Asia) and IDEAS (Innovation and Design for EuroAsian Scholars). Project is financed by the European Commission through the Erasmus Mundus Program .He is Professor of Computer Engineering at Department of Electronics and Computer Engineering, Pulchowk Campus, Institute of Engineering, Tribhuvan University and also Visiting Professor in Brown University, Rhode Island, USA. He is the advisor member of National Information Technology Committee, Government of Nepal. He has published more than 80 technical and policy related papers in national as well as international reputed journals. He is steering committee member in School on Internet (SOI), Kieo University, Japan. He is presently serving as project coordinator of LEADER (Links in Europe and Asia for engineering, education, Enterprise and Research exchanges) financed by the European Commission through the Erasmus Mundus. He has delivered his key note speech in Seoul National University, South Korea and in the 16 International Multi Topic Conference (INMIC) 2013, 18 Dec 2013, Lahore, Pakistan organized by University of Engineering and Technology and IEEE and Invited Speaker in "e-Government Implementation in Nepal, 8 Oct 2012 at San Diego University, San Diego,

USA as well as on "e-Government initiative and adopting Cloud computing as an e-Government Platform in Nepal" 8 Oct 2014 at University of Nevada, Las Vegas, USA. He has given key note speech on "Implementing Cloud Service Models in e-Government at IEEE ICCCA, 29 April, 2016 at Galgotias University, India. He has also Invited Speaker in "the Cloud computing for eGovernment Implementation" 3 Oct 2016 at Santa Clara University, Santa Clara, San Francisco , USA. He has given key note speech on "Cloud Computing for Sustainable development" at IEEE ICCCA, 6 May 2017, 2016 at Galgotias University, India and also key note speech on "Cloud Computing security and challenges ", 11 January 2018, "IEEE 8th International Conference on Cloud Computing, Data Science & Engineering" Organized by Amity University, Noida, India .He is the expert member of Board of studies in South Asian University, India.

He is the Life Member of Indian society for mathematical modeling and Computer Simulation, IIT, Kanpur, India, Member of IEEE, Member of the Society of Digital Information and Wireless Communications, Senior Member of International Association of Computer Science and Information Technology (www.iacsit.org), Hon. Fellow Member of Scientific Society of Advanced research and social change, www.ssarsc.org and Senior member of science and engineering institute, (SCIEI), www.sciei.org. He is keen interest in research and development of ICT, e-government system, Information security for e-Government system, multimedia system, Computer Systems simulation and modeling, Cloud computing & Security, Energy Efficiency in cloud computing, Information system, computer architecture and software engineering. He was awarded by Nepal Education Leadership awards 2017, 18 Dec 2017 and outstanding contribution to education , 17 Dec 2018 by World CSR Day and World Sustainability. Also Awarded 100 most dedicated professors, 4th July, 2019. World education congress.

ICAETCMT-19

International Conference on Advances in Engineering, Technology and Contemporary Management Trends

Session Chair

BIOGRAPHY

Mr.Ganesh Gautam, graduated from “Tribhuwan University”, a second University Topper while getting Master’s in Buisness Administration from “APEX College, Pokhara University” and additional Masters as an University Topper on Information System Engineering from “Purbanchal University”. He later pursuing his Doctorate on “Infrastructure Analysis & IoT Framework Development For Smart City in Nepal” in Department of Computer Science & Engineering at Kathmandu University. Currently working as “Associate Professor “at Kathmandu Engineering College

CONTENTS

SL.NO	TITLES AND AUTHORS	PAGE NO
1.	The Impact of Social Capital on Business Performance of Muslim Women Entrepreneurs in the Eastern Province in Sri Lanka ➢ ***M.A.C.Salfiya Ummah***	1
2.	Strategies to Improve Engineering & Technical Pedagogy in India ➢ ***Dr. Omprakash Netula***	2
3.	Data Analysis on Soil Parameters using K means clustering method for Tomato Farming ➢ ***Astha Shrestha*** ➢ ***Dr.Swati Sah*** ➢ ***Dr Sandeep Kautish***	3
4.	Real Time Urban Traffic Flow Forecasting Using Hybrid Model with Limited Input Data ➢ ***Dr. Sourabh Jain*** ➢ ***Parul Madan***	4
5.	Adaptive Unified Differential Evolution for Solving Transient Stability Constrained Optimal Power Flow ➢ ***B.Venkateswarlu*** ➢ ***K.Vaisakh***	5
6.	Retrofitting Practices of Stone Masonry Buildings in Mud Mortar and Its Current Status in Nepal ➢ ***Er. Alina Shrestha*** ➢ ***Er. Sushil Rijal***	6
7.	Counter design using T Flip-flop in quantum dot cellular automata ➢ ***Adepu.Hariprasad***	7
8.	Success of SMEs in Tourism Industry: Testing Hypothesis with Factor Analysis ➢ ***S.Damayanthi Edirsinghe***	8
9.	Detection & Classification of Voice Pathology using Electrical Circuit Parameters ➢ ***Vikas Mittal*** ➢ ***R. K. Sharma***	9
10.	SRR Inspired Moore Antenna with Fractal Techniques for Multiband Applications ➢ ***Ch Murali Krishna*** ➢ ***Dola Sanjay.S***	10
11.	License Plate Recognition Using Deep Neural Networks ➢ ***Ashish Paudel*** ➢ ***Jeevan Thapa*** ➢ ***Suman Sapkota*** ➢ ***Sushmit Rajaure***	11

CONTENTS

SL.NO	TITLES AND AUTHORS	PAGE NO
12.	Cloud Management Support System using Multi- Agent ➢ ***Megha Vishant Ainapurkar*** ➢ ***Anaya Umesh Mulik*** ➢ ***Sufola Das Chagas Sliva E Araujio***	12
13.	The Effects of Services Marketing Mix Elements on Brand Equity and Customer Response of Tourists Hotels in the East Coast of Sri Lanka ➢ ***Mohamed Ismail Mujahid Hilal***	13
14.	SQL Optimization in Oracle using Hybrid Genetic and Ant Colony Algorithm ➢ ***Rajan Kusi A*** ➢ ***Kabir Kumar Sinekmana***	14
15.	Synthesis of Zinc Oxide (ZnO) Nanoparticles and Study of Their Photocatalytic Degradation Property for Applied Treatment of Industrial Effluents. ➢ ***Rojan Pradhan***	15
16.	Educational Data Mining in moodle data: Applying clustering methods ➢ ***Sushil Shrestha*** ➢ ***Manish Pokharel***	16
17.	ARM'S Length Relationship in Supply Chain ➢ ***P.Viswanathan***	17
18.	Charging of Super Capacitor Using Solar Energy ➢ ***Manish Kumar Agrawal*** ➢ ***Apurva Pravin Sawalkar*** ➢ ***Prabhat Raghunath Janorkar*** ➢ ***Siddhesh Deepak Bangale***	18
19.	Performance Comparison of Co-Operative Energy Detector Using Double Threshold and Adaptive Double Threshold Algorithms for Cognitive Radio Networks ➢ ***Ganesh Gautam*** ➢ ***Nirajan Koirala***	19
20.	An Assessment of Battery Operated Auto Rickshaw's Impact: A case study in Rangpur city, Bangladesh ➢ ***Md. Naimur Rahman***	20
21.	Urban expansion analysis and land use changes in Rangpur City Corporation Area, Bangladesh, using Remote Sensing(RS) and Geographic Information system (GIS) techniques ➢ ***Md. Naimur Rahman***	21
22.	An Effective Resource allocation in YARN using Dynamic Flow Shop based Priority Algorithm ➢ ***Kiran Kumar Pulamolu*** ➢ ***Dr D.Venkata Subramanian*** ➢ ***Dr N.S.Kalyan Chakravarthy***	22

CONTENTS

SL.NO	TITLES AND AUTHORS	PAGE NO
23.	Usage of GGBS for Durable Concrete & Sustainable Construction ➢ ***Dr. Manjunatha. L. Ramachandra*** ➢ ***Er. Rajesh Kumar P*** ➢ ***Er. Sameera Banu***	23
24.	Testing the Weak Form of Efficient Market Hypothesis: Empirical Evidence from NEPSE ➢ ***Dipesh Bhatta***	24
25.	Formation and Open Access of Institutional Electronic Research Corners for Promotion of communication facilities and Quality Research ➢ ***Sukanta Chandra Swain***	25
26.	Multiplexer As a Remote Controller in Television and Tape Recorder ➢ ***Ganesh Adhikari***	26
27.	Outcome Based Education System in Indian Universities: A Critical Review ➢ ***Dr. Sachin Kumar Srivastava*** ➢ ***Dr. Khushboo Agnihotri***	27
28.	Closed Loop Supply Chain ➢ ***P.Viswanathan***	28
29.	Circular Supply Chain ➢ ***P.Viswanathan***	29
30.	Perception Analysis on the Adoption of Electronic Payment Systems in Nepal ➢ ***Ramesh Parajuli*** ➢ ***Raju Kattel*** ➢ ***Rabi Shrestha*** ➢ ***Saroj Pandey***	30
31.	Performance Analaysis of Linked Based Ranking Algorithms in Search Engines ➢ ***Santosh Panjiyar*** ➢ ***Anil Verma***	31
32.	Performance Analysis of Hoeffding and Logisitic Algorithm for Churn Prediction in Telecom Sector ➢ ***Anurag Bhatnagar*** ➢ ***Dr. Sumit Srivastava***	32
33.	Development of better Interface by implementing Sniderman's 8 golden rules of Human Computer Interaction ➢ ***Pratit Raj Giri*** ➢ ***Shristi Shakya*** ➢ ***Manish Joshi*** ➢ ***Sushil Shrestha***	33

CONTENTS

SL.NO	TITLES AND AUTHORS	PAGE NO
34.	A Novel Heart Disease Prediction System Using Machine Learning ➢ ***Sakshi Dangde*** ➢ ***Shweta Lokhande*** ➢ ***Rutuja Khedekar*** ➢ ***Prof. Kiran Avhad***	34
35.	Applications of Bigdata in Machine Learning ➢ ***R.V.Gandhi***	35
36.	High Risk of Cyber Attract, Crime and Threat and It's Future Challenges in Nepal ➢ ***Shailendra Giri*** ➢ ***Dr. Subarna Shakya***	36
37.	A study of effects of mica content on engineering proper-ties of river sand ➢ ***Rajesh Deb*** ➢ ***Indira Baruah Gogoi***	37
38.	Functionalization of mechanically activated fly ash and its utilization in pipe jacking: A detailed review ➢ ***Dilip Kumar Rajak*** ➢ ***Sushant Mahat*** ➢ ***Prabhav Thapa*** ➢ ***Raunak Pandey***	38
39.	Emerging Role of Social Media in Crisis Management: A Study In Reference To Earthquake of 2015 in Nepal ➢ ***Manoj Kumar Giri*** ➢ ***Dr. Sandeep Kautish***	39

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ABSTRACTS

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The Impact of Social Capital on Business Performance of Muslim Women Entrepreneurs in the Eastern Province in Sri Lanka

M.A.C.Salfiya Ummah, Management and Science University, Malaysia

Abstract:--

Social capital is important in the form of networks since it provides a conduit for change of information and resources that can enhance the success or survival of women owned business entities. This study aims to examine the impact of social capital on business performance of Muslim women entrepreneurs in small and Medium Enterprises (SMEs) in the Eastern region of Sri Lanka. Social capital was measured with the dimensions of familial affiliation such as parents and or husband if married or support from any other family members, someone who acts as a role model, economic status during childhood and non-familial affiliations such as business associated or trade associations. Structured questionnaire was used as the data collection technique with the sampling frame of 260 respondents using simple random sampling technique. Structural Equation Modeling (SEM) with AMOS as the data analysis technique while employing SPSS 23.0. The analysis of the structural model showed that, non-familial affiliation had a significant and positive relationship with business performance of Muslim women entrepreneurs where as familial affiliation did not significantly influence on business performance of Muslim women entrepreneurs in Sri Lanka. In most of the conservative Islamic families, women are not often allowed go out of their homes and mix with their counter parts independently. This situation can be observed in Sri Lanka Muslim families specially, in the Eastern Province where majority come from rural areas. However, those who can break this situation and were able to make network affiliation with the business associates and other related bodies could enhance their business performance. Muslim women entrepreneurs, trade chambers and decision making authorities may use this finding of the study as a template to gain insight in to the factors influencing social capital on business performance of Sri Lanka women entrepreneurs.

Keywords:-

Social capital, familial affiliation, non-familial affiliation, business performance, Muslim women entrepreneurs

Strategies to Improve Engineering & Technical Pedagogy in India

Dr. Omprakash Netula, Bhagwant Institute of Technology, Ghaziabad.

Abstract:--

This paper put forward standards of education in engineering and technology who are continue along in engineering and technology education in India. The successive fact required to make better quality of teaching and learning.

There are two categories of learners :

1. Low Speed Phase Learners
2. High Speed Phase Learners

For low speed skill learners online voice recording classes, online video display classes, short study remember tips, participation in various activities, various exercises for physical fitness, chart of time, written course matter preparations, point of time allocation on priorities of work, continues learning practicing and participating continues witting exams etc. would be result in change in the improving learning action of process of the low speed phase learners. Happiness index and wellness index is a supporting structure within which the learners develop a able to produce time and joyable time in period of time, much of which is grow within the teaching learning group of learners during their education time. Thus continuous learning provisional assistance mentoring to students makes complete & taking everything strength into them to carry out strong desire to know and worldwide development for the society.

Data Analysis on Soil Parameters using K means clustering method for Tomato Farming

Astha Shrestha, PCPS, Nepal
Dr.Swati Sah, PCPS, Nepal
Dr Sandeep Kautish, LBEF

Abstract:--

Agriculture in Nepal is one of the prime sources of income of over 60% Nepalese people, rural or not. Like all the developing countries Nepal also depends upon the natural and human resources. 60% and more of the total population depend on agriculture and it is very necessary for them to understand the in depth of agriculture for better growth of crops and plants. Science and Technology helps in sustainable agriculture. There are different types of soil and the color of the soil indicates its RBG values, soil pH and pH index values. There is deep brown, light yellowish and greenish color soils. Data clustering method is the best way that helps to categorize and analyze soil parameters. Clustering includes K means, Fuzzy k means, Hierarchical, etc. algorithms which is described in this paper. A survey is conducted among farmers and agricultural students to know their understanding and problems. A system is developed according to the analysis and design. Soil parameters from Gokarna area is gathered and set it as an input for the system. Most of the data is set for training and these training data as an output shows a clustered figure with the help of which we can analyze best parameter for tomato farming)

Real Time Urban Traffic Flow Forecasting Using Hybrid Model with Limited Input Data

Dr. Sourabh Jain, Graphic Era University, Dehradun

Parul Madan, Graphic Era University, Dehradun

Abstract:--

Real time traffic flow forecasting is critical for the development of Intelligent Transportation Systems (ITS) for urban areas. Traffic flow forecasting has an advantage for regulating traffic flow, traffic lights, and travel times in an urban area. However, most time series and spatio-temporal models used for determining the regression-type relationship between historical and future data, suffers from large mathematical multiplicity and low tune-up flexibility. An adequate and strong database is required to maintain for an Auto-Regressive Integrated Moving Average (ARIMA) models. Thus, the applicability of ARIMA model remains a question where data is limited and difficult to maintain. To overcome this constraint Seasonal Auto-Regressive Integrated Moving Average (SARIMA) model has been used which requires only limited input data. On the other hand, the performance of the SARIMA model is constrained by the adversity of securing nonlinear patterns and the challenges of detecting white noises. The present study proposing a hybrid model called SARIMA-EGARCH with the intent to overcome these constraints. It incorporates the linear SARIMA model with a nonlinear model of Exponent Generalized Autoregressive Conditional Heteroskedasticity (EGARCH) to capture the variance of random error varying across the series of traffic flow. Data collected from an arterial road of Delhi (ISBT Kashmiri Gate to Mahrauli Terminal) using IP cameras with a sampling period of 5 minutes from only four consecutive days were used to figure out the performance of the proposed model. The outcomes of the developed hybrid model were compared with conventional SARIMA and Artificial Neural Network (ANN) models. The experimental results demonstrate that the accuracy and reliability of proposed model is superior then the other comparison models when modeling in the real urban traffic.

Adaptive Unified Differential Evolution for Solving Transient Stability Constrained Optimal Power Flow

B.Venkateswarlu, Department of Electrical and Electronics Engineering, JNTUA College of Engineering, ANANTAPUR, AP, India

K.Vaisakh, Department of Electrical and Electronics Engineering, JNTUA College of Engineering, ANANTAPUR, AP, India

Abstract:--

In the present day power systems, the problems related to voltage/transient instability have become a major concern for secure operation and control. For the stable and economic operation of power systems, optimal power flow (OPF) aims to find the optimal settings of a given power system network that optimize a certain objective function while satisfying its power flow equations, system security, and equipment operating limits. The OPF problem with transient stability constraints is however a nonlinear optimization problem with both algebraic and differential equations, which is difficult to be solved even for small power systems. This paper develops a robust and efficient method for solving transient stability constrained OPF problems with total generation fuel cost, active power losses and voltage stability index as the objective functions of the optimization problem. The proposed method is based on adaptive unified differential evolution, which has strong ability in searching global optimal solutions of highly nonlinear and non-convex problems. Numerical tests on the IEEE six-generator, 30-bus system and IEEE New England ten-generator, 39-bus system have demonstrated the robustness and effectiveness of the proposed approach for solving optimal power flow problems with transient stability constraints.

Index Terms

Differential evolution, optimal power flow, parallel computation, power system operation, power system transient stability

Retrofitting Practices of Stone Masonry Buildings in Mud Mortar and Its Current Status in Nepal

Er. Alina Shrestha, Build Change, Nepal

Er. Sushil Rijal, Build Change, Nepal

Abstract:--

Four years and three months have passed since the devastating April 2015 Gorkha Earthquake, which destroyed around 700,000 houses and death toll around 9,000. Although new construction of earthquake affected housing has gained pace lately and near to completion, another facet of reconstruction i.e. retrofitting has been sluggish. Out of 62,397 identified beneficiaries of retrofitting, not even hundred beneficiaries have received complete aid for retrofitting. Nepal lies on one of the most active seismic zones of the world, but in contrast, most of the house are built without proper engineering judgment. Haphazard construction of houses poses a constant threat to lives and society, and retrofitting can be an optimal solution for reducing the threat. The majority of houses to be retrofitted are stone masonry in mud mortar, whose strengthening is challenging task due to 1) Recently introduced technology, 2) Economic hardship and insufficient financial support by government, 3) remote location, etc. In this paper an effort is made to compare current retrofitting practices of stone masonry buildings in mud mortar such as Strong Back approach, Wall jacketing, Splint and Bandage and their relevance in Nepal.

Counter design using T Flip-flop in quantum dot cellular automata

Adepu.Hariprasad, Department of Electronics & Communication Engineering, Kamala Institute of Technology and Science, Huzurabad, India

Abstract:--

Conventional CMOS technology have lot of limitations and serious challenges threat this technology when scaled to anano-level. Several alternative technologies have been proposed as solutions to overcome limitations and challenges encountered by CMOS. Quantum dot-cellular automata (QCA)is an emerging nanotechnology for the development of logic circuits such as combinational and sequential circuits. QCA seems to be best alternative to the conventional complementary metal-oxide semiconductor (CMOS)technology. QCA is anew computing paradigm in nanotechnology that can implement digital circuits with outstanding features such as ultralow power consumption, faster switching speed and extremely density structure. In this paper, an ovel area efficient and optimized QCA layout design of sequential circuit T flip flop is proposed by which the QCA layout area has reduced by 57%,cellcountimproved by56% in comparison with the earlier best designs. The use of proposed T flip flop in designing sequential circuits like synchronous2bit upcounter,3bitupcounterand4bitup counter has reduced the QCA layout area by65%,64% and 70% respectively whereas QCA cell count are reduced by 53%, 62% and 59%.For the proposed 2bit,3bit and 4bit up counters there is an improvement in cost are 84%,66% and 70% respectively over the earlier best designs. The sequential circuits flip flop and counters are designed using three input XOR gate and are implemented by QCA layout.The paper also present the use of proposed T flip flop designed with 3input XOR gate in designing not only synchronous binary up counters but also in synchronous binary counter provides a significant reduction in the hard ware and complexity than the existing methods. These circuits are simulated using computer aided design tool QCA Designer2.0.3,which is a design and simulation tool for quantum dot cellular automata. The aim is to maximize the circuit density and focus on a QCA layout that uses minimal number of cells

Keywords:--

CMOS, Logicgates, Latency, Nanotechnology, Quatnum -dot Cellular Automata(QCA),T flip flop, counters;

Success of SMEs in Tourism Industry: Testing Hypothesis with Factor Analysis

S.Damayanthi Edirsinghe, Faculty of Commerce and Management Studies, University of Kelaniya

Abstract:--

Small and Medium-scale Enterprises (SME's) are a primary factor in developing countries like Sri Lanka as they contribute massively to local and regional income enhancement. On the other hand with the development of people intend to travel all over the world tourism industry has become one of the major foreign exchange generators in number of countries in number of reasons. When considering the connection between tourism and SME it is worthwhile to examine how SMEs can depend on tourism. Especially in the hotel sector emerged as a subsection of the tourism industry that strengthened the businesses. Recent statistics revealed that the growth of Sri Lankan tourism has been minimal. One of the problems here is the tourism sector in Sri Lanka graded the hotel and supplementary establishments have not yet fully exploited its tourism potential. Therefore the objective of this paper is to identify what managerial factors that affect sustainable growth of SMEs in the Hotel and travel sector tourism in Sri Lanka. This study employed a quantitative approach to analyze the data by using a snowball sampling technique. The sample size comprised of 134 organizations of SMEs in Hotel and Travel Sector of Tourism in Sri Lanka. In line with the objectives, the researcher has chosen factor analysis in the data analysis part with testing the hypothesis. Before selecting the variables, convergent validity test was run to identify the latent variable correlates by using KMO and Bartlett's test of sphericity and Cronbach Alpha. Chosen desired statistical significance level here was 5%. After selecting the factors researcher used multiple regression analysis to fit a suitable model. Based on the results of entrepreneurial characteristics, human resource management and strategy making management were significantly related to the sustainability of organizational growth. Finally, the results of this study provide indications for recommending the strategic behavior of SMEs to be used as a basis for benchmarking and improvement of SMEs in the tourism industry. Therefore the social capital, human capital and entrepreneurial coordination are significantly contributed to the sustainability of the industry.

Keywords:

SMEs, Tourism, Hypothesis Testing, Factor Analysis

Detection & Classification of Voice Pathology using Electrical Circuit Parameters

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Abstract:--

The classification of pathological voice is a hot topic that has been expected significant consideration. Voice pathology is related with a vocal folds difficulty, and for this reason, the vocal tract area which is joined to vocal folds demonstrate random patterns in case of a pathological voice. This random pattern is considered to distinguish healthy and pathological voices. It is possible to utilize transmission line theory in discovering automatic voice pathology detection by taking into consideration the vocal tract as acoustic lines. The work concentrates on developing a feature extraction for detecting and classifying vocal fold polyp by investigating different vocal tract parameters. In this paper, the vocal tract length and area are utilized for computing electrical parameters of the vocal tract. Furthermore, these electrical parameters are used for the classification of pathological voice. Finally, using electrical parameters 97.3% accuracy is obtained with SVM classifier when compared with 88.2% with the acoustic parameters, 85.3% accuracy considering physical parameters and other methods used in the past. The outcomes demonstrate that electrical parameters of the vocal tract can be utilized all the more successfully with better precision in voice pathology identification.

Keywords:

Voice Pathology Detection (VPD), Vocal Tract Area, Vocal tract length, Support Vector Machine (SVM).

SRR Inspired Moore Antenna with Fractal Techniques for Multiband Applications

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Abstract:--

A Compact miniaturized asymmetric fed Moore curve with fractal, DGS and SRR are designed for several wireless applications. The compact size of proposed antenna is 25mm x 25mm x 1.6mm. By the proper alignment of fractal shapes, this Moore curve obtains multiple resonances. To improve the several performance characteristic of proposed antenna like bandwidth, gain and radiation efficiency, defected ground structure (DGS) and split ring resonator (SRR) are loaded. The maximum peak gains at the center frequencies are 2.67dB at 2.32GHz, 2.82dB at 4.84GHz, 3.60dB at 5.14GHz, 2.62dB at 5.58GHz, 3.41dB at 6.66GHz, 1.87dB at 7.22GHz, 2.37dB at 7.66GHz, 1.11dB at 8.36GHz and 2.41dB at 9.78GHz.

Index Terms

Moore curve, Koch fractal,Quad fractal, Hybrid fractal, SRR, Multiband.

License Plate Recognition Using Deep Neural Networks

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Jeevan Thapa, Pulchowk Campus, IOE, Tribhuvan University.
Suman Sapkota, Pulchowk Campus, IOE, Tribhuvan University.
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Abstract:--

This paper is focused on the license plate recognition system that identifies license numbers from a live video feed of vehicles. The system first parses the video to obtain a stream of frames. Then it performs object detection on the individual frames to localize and extract the images of vehicles from the frame. In the next stage, license plates are localized from individual vehicle images. The license plate thus extracted is then further segmented into images of individual characters. The individual characters are then passed to an Optical Character Recognition (OCR) system that recognizes them thus recognizing the license number of the vehicle. Finally, the license numbers identified by the OCR engine are aggregated over multiple frames to give the final prediction of the license number which is noise resistant and robust and accurate.

Cloud Management Support System using Multi-Agent

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Anaya Umesh Mulik, Master of Information Technology
Sufola Das Chagas Sliva E Araujio, Assistant Professor PCCE, Verna, Goa, India

Abstract:--

This research work examines the management of the infrastructure-level resources or services available in the private cloud by making use of an multi-agent architecture. The objective of this research is to design and develop the automated system for the selection of the best services for the end users, to show coupling of intelligent agents and internet of things for developing highly reconfigurable software approaches that incorporate domain knowledge and provide decision making capabilities, to make use of Mobile Agent technology to be able to engage in high-performance distributed work.

The system should be able to detect the type of service and best suitable services available with it. Due to their mobile and dynamic nature, utilizing multi-agent systems (MAS) has become preferable for researchers in finding solutions that tackle the different concerns raised during performing the compositions and selection. The object oriented methodology followed is system analysis, system design, object design and implementation.

Keywords:--

Cloud computing, multi-agent, artificial intelligence, distributed constraint optimization problem, dynamic programming optimization protocol.

The Effects of Services Marketing Mix Elements on Brand Equity and Customer Response of Tourists Hotels in the East Coast of Sri Lanka

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Abstract:--

The purpose of the study was to examine the effect of the elements of extended service marketing mix of the east coast hotels in Sri Lanka on the creation of the brand equity and how that brand equity plays a mediating role in customers' response. The study was quantitative in nature. Survey methodology was adopted. 163 tourists arriving in Sri Lanka who stayed in the hotels in the East Coast of Sri Lanka were surveyed. The questionnaire was used to collect the data. Smart PLS 3 was used to analyze the data. Findings suggest that people, process, physical evidence and marketing communication elements have an effect on the brand equity and in turn positively influence the customer response towards the hotel. Findings also suggest that brand equity of these hotels is partially mediating between extended marketing mix elements and customer response to the hotels. However, marketing communication is not significantly contributing to brand equity. Hoteliers in the region can focus on the people, process and physical evidence to improve their hotel performance as it also contributes to the customer responses towards hotels.

Keywords:

Service marketing mix, people, process, physical evidence, brand equity, customer response

SQL Optimization in Oracle using Hybrid Genetic and Ant Colony Algorithm

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Kabir Kumar Sinekmana, Pokhara University, Nepal

Abstract:--

In this paper the input user Structured Query Language (SQL) query converts into an optimized SQL query by using hybrid algorithm and main aims is to reduce query execution time, by using PHP language and oracle database and also performance of these watermarking has been evaluated using different performance metrics they are Cost of individuals, Query execution time. Hybrid algorithm method combines the evolutionary effect of Genetic Algorithm (GA) and the cooperative effect of Ant Colony Optimization (ACO). A GA with a great global converging rate aims to produce an initial optimum for allocating initial pheromones of ACO. An ACO with great parallelism and effective feedback is then served to obtain the optimal solution. A fused algorithm of a GA and ACO to solve SQL optimization problem is an innovative solution that presents a clear methodological contribution to optimization algorithm. In the simulation result, we found that algorithm of a GA and ACO to solve SQL optimization problem in Oracle is an innovative solution that presents a clear methodological contribution to optimization algorithm.

Index Terms:

Ant Colony, Genetic, SQL, Query Optimization, Query Execution plan

Synthesis of Zinc Oxide (ZnO) Nanoparticles and Study of Their Photocatalytic Degradation Property for Applied Treatment of Industrial Effluents.

Rojan Pradhan, Kathmandu University

Abstract:--

Industrial dyes discharged as effluents in water bodies have severe effect to the environment. Such dyes have complex molecular structure and high stability against light, temperature, chemicals, etc., making it difficult to degrade it by using conventional wastewater and biological treatments. The purpose of this study is to examine photocatalytic degradation property of Zinc Oxide (ZnO) nanoparticle for the degradation of methylene blue dye solution. For effective catalyst recovery, the ZnO nanoparticles have been immobilized in calcium alginate beads. The effect of illumination time, amount of catalyst loaded, and initial dye concentration on the degradation efficiency of methylene blue was investigated in presence and absence of light by using both free bead or impregnated bead. The ZnO nanoparticles were characterized by using X-ray Diffraction (XRD), Fourier Transform Infrared Spectroscopy (FTIR) and Transmission Electron Microscopy (TEM). The TEM image shows irregular shaped 15-25 nm sized particles and XRD reveals the typical hexagonal wurtzite structure of ZnO nanoparticles used. The FTIR spectrum identifies that the photocatalysts are indeed ZnO and ZnO is embedded in alginate beads. The results reveal that the optimum photocatalytic oxidation conditions of methylene blue are as follows: illumination time is 80 minutes; the amount of catalyst loading is 12 mg and 25 ppm methylene blue dye concentration. With ZnO impregnated alginate beads, the optimal catalyst loading percentage is 30%. The results also reveal that the overall removal of the dye is also due to the adsorption by the hydrogel alginate beads. The performance of ZnO embedded alginate bead in presence of light shows best result.

Educational Data Mining in moodle data: Applying clustering methods

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Manish Pokharel, Digital Learning Research Lab, Department of Computer Science and Engineering, Kathmandu University, Dhulikhel, Nepal

Abstract:--

Educational Data Mining (EDM) is a growing research area. Data mining concepts, when operated in an educational setting like Learning Management Systems (LMS), to extract meaningful information is known as EDM. Hence it can be used to extract useful information from students based on their behavior in the learning process. So, the main objective of this research is to find outliers in the moodle data. To achieve this task, unsupervised learning techniques: K-means and DBSCAN are used. K-means and DBSCAN are both clustering techniques, which not only helps in the grouping of the data but also in finding different outliers that do not conform to the normal data. The data were collected from students enrolled in the course called Human Computer Interaction (COMP 341). Kathmandu University uses moodle as its online learning platform. The detection and removal of outliers can help in the better prediction of student performance. Further the analyzed results are represented using various data visualization techniques.

Keywords:

Educational Data Mining, Online Learning, Moodle, Clustering, Outliers

ARM'S Length Relationship in Supply Chain

P.Viswanathan, MEMBER OF IIMM BANGALORE

Abstract:--

In supply chain management the mechanism to promote the joint working in collaboration, and interacting are primarily focused on the exchange of purchase orders, and invoices, rather than exchange of designs, future plans, strategies which are more consistent with cooperative relationship.

Buyer and Supplier relationship is found to be an important factor in an organization, and the response of demand, and the unpredictable change of the relationship in supply become too flexible, restrictive, then it will be difficult to be active, and if it is not taken care of properly then risk becomes an opportunity to sustain, as this will becomes difficult in supply chain.

The Buyer relationship are reviewed at arm's length in supply chain in a perspective way, since transaction cost, strategy and resources of the organization is based on the findings in supply chain:

The relationship at arm's length is of different types in accordance with circumstance prevailing in the organization: 1. Vertical is the organization relationship between retailers, distributors, manufactures, raw materials suppliers in a supply chain: 2. Horizontal: Organizations that occupy the relationship in supply chain has that capacity to share the requirement among the one another in a supply chain: 3. Collaborations'; As business organizations between themselves agree to share the capacity available among themselves in accordance with the requirement, then collaborated work experience are made use in accordance with requirement, and space available among the organization in supply chain.

The organization of the two in nature will become transactional, and are at arm's length relationship with limited commitment in supply chain. The two organizations co-operate to drive better long-term benefit in combining results in supply chain. The two organizations strategically represent themselves as partners in supply chain, and then modify the objectives, and required practices to achieve long term goals and objectives. Supply chain collaboration may be difficult or sometimes easy to be implemented in supply chain. Supply chain collaboration has been hailed in way to improve the arms length relationship, performance, which has the possibility to fail miserably if not implemented properly in supply chain.

Charging of Super Capacitor Using Solar Energy

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Apurva Pravin Sawalkar, Department of Electrial Engineering Rajiv Gandhi College Of Engineering&Researh, Nagpur
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Siddhesh Deepak Bangale, Department of Electronics Engineering G. H. Raisoni College of Engineering , Nagpur

Abstract:--

Supercapacitor (SC) Or Ultracapacitor (UC), also known as double-layer capacitor, is a new device of stored energy. Its characteristics are between electrolytic capacitor and battery. It has large capacitance and excellent charge discharge performance and compared to normal battery it has the longer useful life. Hence, in future for efficient and economic operation point of view, ultra- capacitor may replace batteries. So, in this project, we are studying the charging of supercapacitors using solar power. Supercapacitors (SC) represent one of the innovative solutions in the field of energy storage technologies and have found their place in today's many high power applications, like traction drives of electric vehicles, energy storage systems for elevators. here, we have charged supercapacitors of various ratings using solar power as it is the source of energy for the future.

Key Words:

Ultracapacitor, charging and discharging rate, energy density, PWM technique.

Performance Comparison of Co-Operative Energy Detector Using Double Threshold and Adaptive Double Threshold Algorithms for Cognitive Radio Networks

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Nirajan Koirala, Nepal Telecom Authority, Government of Nepal

Abstract:--

A prime component of the cognitive radio technology is spectrum sensing. Many spectrum sensing techniques have been developed to sense the presence or absence of licensed user. This paper evaluates the performance of the energy detection based spectrum sensing technique in noisy environments. Both single user detection and cooperative detection situations were investigated. Closed form solutions for the probabilities of detection and collision were derived. The analytical results were verified by using MATLAB. Performance of adaptive spectrum sensing algorithm and adaptive double threshold algorithm are compared with the conventional double threshold algorithm for the AWGN channel and Nakagami fading channels. Theoretical analysis and simulation result showed that interference level to primary users is reduced and detection performance is significantly improved using adaptive double threshold algorithm. Results show that for single user detection, the energy detection technique performs better in AWGN channel than in fading channel models. The performance of cooperative detection is better than single user detection in fading environments

An Assessment of Battery Operated Auto Rickshaw's Impact: A case study in Rangpur city, Bangladesh

Md. Naimur Rahman, Begum Rokeya University, Rangpur, Bangladesh

Abstract:--

Battery operated auto rickshaw is a common three wheeled fast growing vehicle in Rangpur city. This paper describes the social, economic, environmental impact and shows the purposive comparison of solar based auto rickshaw within the battery oriented auto rickshaw in the area of Rangpur city. In this work various questions were asked to the auto rickshaw drivers, passengers, and importers for acquiring the total scenario of social and economic condition of auto rickshaw. And for the environmental impact different data were collected from the power supply authorities of Rangpur city. The findings say that the number of auto rickshaw was 400 in 2012 which has risen in the number to 6,500 in 2019 at a great extent which is the cause for reducing unemployment problem in accordance with increasing traffic jam. The findings of the study also contain that the economic and social condition gets improved by the owner of battery operated auto rickshaw whereas the rented battery operated auto rickshaw driver is not getting improvement as much as the owner of the auto rickshaw but both having enough income comparing with their previous profession's income. And only 32.5% drivers consider that there is less social value for the profession. Auto rickshaw has no sound pollution, but it is creating trouble by consuming electricity, which is produced by burning fossil fuel and are the cause of continuous air pollution. And according to the field survey total 21,800 auto rickshaw runs every day in the Rangpur city which is consuming 19.62 megawatts of electricity where production of electricity is limited as well as it is the cause of both shortage of electricity and 9810 kg emission of carbon per day. But the shortage of electricity and emission of CO2 could be reduced or mitigated by using of solar oriented auto rickshaw.

Keywords:

social; economic; environmental; solar auto; co2 emission; preferential choice and reasons.

Urban expansion analysis and land use changes in Rangpur City Corporation Area, Bangladesh, using Remote Sensing(RS) and Geographic Information system (GIS) techniques

Md. Naimur Rahman, Begum Rokeya University, Rangpur, Bangladesh

Abstract:--

Rangpur City Corporation(RCC) is the main administrative functional area for both of Rangpur City and Rangpur division and experiencing a rapid changes in the field of urban sprawl, cultural and physical landscape, city growth. These agents of Land use/Land cover(LULC) varieties are responsible for multi-dimensional problems such as traffic congestion, water logging, and solid waste disposal, loss of agricultural land. In this regard this study fulfills LULC changes by using Geographical Information Systems (GIS) and Remote Sensing (RS) as well as field survey were conducted for the measurement of change detection. The sources of data were landsat 7 ETM and landsat 8 OLI/TIRS of both C1 level 1. Then after correcting the data geometrically and radiometrically change detection and combined classification(supervised & unsupervised) were used. The study finds LULC changes built up area, water source, agricultural land, bare soil in a change of percentage is 17.23, 2.58, -9.94, -10.19 respectively between 2009 and 2019. Among these changes bare soil is changed with a great extent which indicates the expansion of urban area is utilizing the land in a proper extent respectively.

Keywords:

Urban expansion; land use; land cover; remote sensing; geographic information system (GIS); Rangpur City Corporation(RCC).

An Effective Resource allocation in YARN using Dynamic Flow Shop based Priority Algorithm

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Abstract:--

Big Data became a driving factor behind every marketing decision. Every industry such as banking, Social Networks, education, e-commerce produces huge amount of raw data on day basis. To store, manage and analyze this raw data, big data technologies and management approaches like Hadoop is being used. YARN is the core part and architectural center of Hadoop. It has resource manager, Node manager to do various computational operations with the help of resources such as CPU, Memory etc. Even though the YARN framework establishes the efficient resource allocation, it is still suffering from several challenges like resource fairness, throughput, response time, energy efficiency, CPU utilization, memory usage, resource contention, scarcity of resources, over-provisioning and resource fragmentation etc. In this paper, a new algorithm named Dynamic Heterogeneity Priority based Flow shop scheduling algorithm (DHPFS) is proposed to overcome response time, throughput. In this, resource manager and resource scheduler will set the priority of every incoming user request dynamically. During the priority analyzing process, the request may be handled by one of the available machine. If the allocated machine is free it will execute the request in no time. But, if the allocated machine is already busy in executing another task, the process has to wait until the previous task finishes. This continuous process reduces the above described issues with effective manner. Then the performance of the system is analyzed using the experimental results and discussions in terms of the resource allocation time, completion time for the request and resource utilization accuracy.

Keywords:

Hadoop framework, YARN framework, Dynamic Heterogeneity Priority based Flow shop scheduling algorithm, dynamic environment.

Usage of GGBS for Durable Concrete & Sustainable Construction

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Abstract:--

Concrete is a Major building material which is been used in the construction industry throughout the world. Concrete consists of cement, fine aggregates (sand) and coarse aggregates mixed with water. Concrete can be cast any desired shape and once it is hardened will become structural element. Portland cement is the most commonly used type of cement for production of concrete.

Technological development has drastically increased the volume of Cement making as compared with the past. Higher production levels have also been largely considered as the leading cause of pollution. Construction industry is one of the leaders in deterioration of environment by exhausting resources and consuming energy or creation of hazarder waste.

When we use only cement in concrete it releases abundant qty of CO2 which increases green house effect and global warming and which is directly which is directly affecting our eco system.

Many research and alternative methods are carried out for reducing the CO2 emission and come with many solution by using the industrial by products & waste as a replacement of cement. This Idea also helps in recycling the industry by-product & waste. It is our utmost duty to reduce the pollution by using these products as a Mineral admixture i.e. Ground Granulated Blast Furnace Slag (GGBFS) fly ash in concrete. This helps in enhancing the fresh and hardens properties of the concrete. GGBS replacement has emerged as a major alternative to all types of concrete and has rapidly drawn the concrete industry attention due to its cement savings in energy & cost with better benefits on environmental and socio-economic.

From this study, we can explore the advantages of using GGBS by replacing with Ordinary Portland Cement (OPC) in Concrete. GGBS as material is having grain size which is finer than OPC; Gaining of strengths at early ages is bit lower but continues to gain strength over a long period. The most advantageous GGBS replacement will reduces heat of hydration in concrete & resistance to chemical attack, better workability, good durability and cost-effectiveness.

Key words:

Cement, GGBS, Mineral Admixture, and Concrete.

Testing the Weak Form of Efficient Market Hypothesis: Empirical Evidence from NEPSE

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Abstract:--

In modern world, stock market is the back bone of the economy and information is crucial inputs for the stock market. Numerous research encompassing the Efficient Market Hypothesis (EMH) has been done on major stock markets of United States and Europe, however, significant number of research cannot be seen in case of the stock markets in developing and less developed countries. Some studies have been conducted considering Nepal Stock Exchange (NEPSE), which is supposed to function inefficiently due to the unavailability of relevant information and the task to justify the valid information is very crucial. This study aims to examine the effects of arrival of new information relevant to the Nepalese stock market on the stock prices, to evaluate the stock returns respond to the arrival of information and to study the investors' behavior in Nepalese Stock Market on the basis of information. A best discovered ARIMA model is used considering the daily price indices of NEPSE index for the period of 17th July 2014 - 16th July, 2019. All the tests of efficiency at the weak level should showed that the stock returns for NEPSE should not random over the time of the study. Therefore, the stock returns should display predictable (or nonrandom walk) behavior. The parametric and nonparametric tests should be drawn the same conclusion that the stock returns of the NEPSE is inefficient at the weak level. Our findings should be consistent with other similar research Frennberg and Hansson (1993), Abeysekera (2001), Abraham (2002), and Borges (2010).

Keywords

Weak-form market efficiency; The EMH; Autocorrelation; ARIMA.

Formation and Open Access of Institutional Electronic Research Corners for Promotion of communication facilities and Quality Research

Sukanta Chandra Swain, KIIT Deemed to be University, Bhubaneswar

Abstract:--

Indian higher education institutions (HEIs) are struggling hard to get a berth among top-rated HEIs in the world. One of the important parameters that restrict our HEIs from the list of top-notch global HEIs is 'contribution to research'. It does not mean that Indian HEIs don't have quality researchers to produce world class research output. Had that been the case, Indian researchers doing research abroad would not have done miracles with their unique research output in varied domains. The hindrance for researchers in India could be owing to improper communication facility that fails to exchange ideas and outcomes of research among peers. Thus, the urge for formation of sound institutional electronic repositories, i.e., electronic research corners (e-research corners) has crop up. Mere formation of e-research corners won't suffice to address the issue. Besides formation, e-research corners need to be open accessed. University Grants Commission (UGC) of India has established an Inter-University Center called Information and Library Network Center (Inflibnet), which is the best example of open access institutional repositories. While some HEIs of India do have their research corners that are accessed by only the internal stakeholders, some other HEIs don't have any such repositories as such. On the backdrop of the necessity of formation and open access of institutional electronic repositories, this paper focuses on unfolding how open access to sound e-research corners promote quality education. Besides, it will also design a framework that will assist the HEIs to build sound e-research centers. For the purpose, in-depth interviews will be conducted with 50 researchers working in reputed HEIs in Bhubaneswar to ascertain how open access e-research centers facilitate quality research. Focus Group Discussion will also be conducted among experts in the field like research heads of selected HEIs, Chief Librarians of established Libraries and reputed educationists of the State for designing the framework to form e-research centers. The findings of this research will help in communicating ideas and findings of researchers to all the corners that matter for quality research.

Key Words:

Open Access, E-Research Corner, Communication Facility, Quality Research, Inflibnet

Multiplexer As a Remote Controller in Television and Tape Recorder

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Abstract:--

The article presents a concept of designing a "Multiplexer as a Remote Controller" in Television and Tape Recorder; supporting efficient and more reliable selection processes of input with some additional features of "Logical based selection criteria" and further that input uses by Television/Tape Recorder to display the selected input value via the monitor of Television as well as Magnetic Tape Recorder. The purpose of the system is to design and develop technique in making efficient Logical based selection criteria with added features and further support to develop Remote Controller to select input value with provision of selection lines. Basic purposes and assumptions regarding the design and development of this system as well as a description of its operation have been presented.

Keywords-

Multiplexer, Selection Lines, AND Array, Interfacing, Function Table, Television, Tape Recorder.

Outcome Based Education System in Indian Universities: A Critical Review

Dr. Sachin Kumar Srivastava, Professor, Graphic Era Hill University, Dehradun
Dr. Khushboo Agnihotri, Assistant Professor, Amity Business School, Amity University UP

Abstract:--

Indian education system is now changing drastically. Innovative teaching pedagogy has been introduced in some of the educational institutions/ universities. New teaching pedagogy is based on out-come based education system. This totally depends on vision, mission, and objective of the university/institution. Universities define a vision, mission, and objective for the courses/ programmes run by them. Subsequently they defines broad based goals, programmes learning outcomes, then students learning outcomes, and finally use assessment tools to judge the outcome of the learning through students assessment procedure. This paper discusses the new teaching pedagogy in the higher education of the country and also tries to compare the traditional teaching pedagogy with the innovative education system of India.

Keywords:--

Teaching Pedagogy, PLOs, BBGs, SLOs, Outcome based teaching.

Closed Loop Supply Chain

P.Viswanathan, MEMBER OF BANGALORE BRANCH IIMM

Abstract:--

Closed loop in supply is ideally a zero waste supply chain that is completely re-used re-cycle or composts of materials. Closed loop supply chain are supply chain network that includes returns process, and the manufacturer has the intent of capturing additional value, and further integrating all supply chain activities. Closed loop supply chain can substantially help cut back on these waste. Most products require raw materials, to make products, since in some cases re-cycled material is used for manufacturing goods, for consumer, even if the materials are used, and the ultimate aim, is closed loop supply chain, is to reduce the number of raw material needed, thorough the best method of reclaiming, and receiving the required materials.

The original product required are manufactured, it is distributed along the supply chain to the distributor, retailer, and eventually, it reaches the consumer. The product must be re-cycle, and complete to the closed loop of supply chain.

Closed loop supply chain occurs due to commercial returns, warranty replacement, re-cycling, and re-use of any equipment. Closed loop also incorporates the activities into the additional methods of forward supply chain, and in the reverse supply chain of products available to the consumer. Closed loop supply chain moves toward the forward channel in distribution of the product. In the forward supply chain raw materials are manufactured into new products, as per the requirement of the customer, but in the reverse supply chain, it can be used in the products that that are manufactured.

Circular Supply Chain

P.Viswanathan, MEMEBR OF BANGALORE BRANCH IIMM & FACULTY

Abstract:--

Circular supply chain is about taking apparent waste materials, and returned goods, and turning them into products, which can be resold, and with sustainability goals in mind, and this in which companies need to find ways to reduce carbon footprint of shipping freight. Supply chains are becoming a circular by adding a link to connecting the beginning, and end of chain and this link encompasses returns, re-cycling, and improve sustainability and the environment.

Circular supply chain is team in nature eliminating waste, and reducing carbon footprint. This also lowers cost while passing on the sustainability benefits to partners.

Circular supply chain refers to a transition from raw-material to manufacture, distribution, place to an ultimately to the consumer, and then on to the waste process, since the world resources are finite, the supply chain in its entities are to be adhered to be circular.

Supply chain which included entire reverse logistic process, in order to grow, and become sustainable in future, without any unlimited supply chain resources, barriers in circular supply chain.

In today's supply chain atmosphere the manufacturers have grown exceptionally capable of being able to produce record breaking volumes of products without re-cycling, and re-use of resource with the capabilities. Driven by Internet of Things, analytics, and with real-time data, organizations are improving their efficiency of the organization.

Perception Analysis on the Adoption of Electronic Payment Systems in Nepal

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Abstract:--

The need of creating easiness and promptness in commercial activities has led to the emergence of various new technology based services in the marketplace. Among those services is the e-payment system which enables customers and merchants to settle payment via the electronic medium and without involving any physical cash. E-Payment systems have received different acceptance level throughout the world - some methods of e-payment are highly adopted while others are relatively lower. Primarily, user perceived inhibitions associated to the payment systems are believed to be one of the contributing factors to the low adoption rate of such systems. This study is aimed to identify user's perception and their behaviour towards different e-payment systems currently available in Nepal. The study also aims to find out the various services provided by various e-payment systems in Nepal, the factors affecting user's decision for adoption or rejection of the e-payment systems and the existing customer service status of those systems. For the data collection purpose, survey questionnaires were distributed to various people who were using one or several payment systems as the study sample. Finally, the limitations of study and future directions of research are discussed.

Performance Analaysis of Linked Based Ranking Algorithms in Search Engines

Santosh Panjiyar, Nepal College of Information Technology, Pokhara University, Nepal
Anil Verma, Lecturer, Tribhuvan University, Institute of Engineering Nepal

Abstract:--

Due to the exponential growth of the information on the web, users depend on various search engines for finding suitable answers for their queries. Search engine returns millions of web pages in response to the user's queries. It is not possible for the users to preview all the returned Pages. So to display the resultant pages in a ranked order, ranking algorithms are used. In this research work, three popular linked based ranking algorithms have been analyzed: Page Rank, Weighted Page Rank and Weighted Link Rank algorithm. The PageRank of page A is recursively defined by the PageRank of those page which link to page A. A web page should assigned higher rank if it is referenced by many high ranked web pages. Weighted PageRank ranks the web pages processing its entire in-links and out-links and the references of those in-links and out-links. Weighted Link Rank algorithm ranks the pages based mainly on three parameters: i.e. the length of the anchor text, tag in which the link is contained and the relative position of the link in the page. WLR considers different web page attributes to give more weight to some links. The experimental result shows that the increase in number of iteration in case of WLR is only 14 to 34 which is better comparative to PR and WPR.

Index Terms

Search Engine, PageRank, Weighted PageRank, Web link ranking, Web Mining, Web Structure Mining.

Performance Analysis of Hoeffding and Logisitic Algorithm for Churn Prediction in Telecom Sector

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Abstract:--

Churn automatically introduces where the term customer emanates. Churn is irresistible thus it is better to develop models to predict the churn. In this paper, weka tool is used to perform various operations on data set and first of all data is converted into nominal form. It's divided into classes and cross-validation is performed on churn class. Hoeffding tree algorithm and Logistic algorithm have been applied on the dataset. Classifier performance evaluator is used to classify the data. To observe the results text viewer is used and the graphical representation is cast-off to demonstrate the comparisons. Confusion matrix suggest that Logistic algorithm is a better algorithm to predict the customer churn over Hoeffding tree algorithm.

Key Words: -

Churn, Cross-Validation, classifier performance evaluator, Hoeffding algorithm, Logistic algorithm.

Development of better Interface by implementing Sniderman's 8 golden rules of Human Computer Interaction

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Abstract:--

The purpose of this research paper is to provide an overview on developing the online shopping website by implementing the principles of Human Computer Interaction. Hence to achieve this task, Sniderman's 8 golden rules were applied in this research. The research was conducted to develop the better interface in terms of usability. In general, novice users with less knowledge in the field of computer finds it difficult to access the functionality of the available interfaces. This developed interface is very helpful to the business owners who are not well equipped in their computer skills. The significance of this research is the development of easy to understand and usable interface.

Keywords:

Human Computer Interaction (HCI)

A Novel Heart Disease Prediction System Using Machine Learning

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Abstract:--

Heart disease cannot be diagnosed with an eye, many factors can be responsible for it to occur. Inaccurate decisions would affect the health of the patient and in turn affect the hospital's reputation. Computer-based decision making systems can be developed to make good decisions. Analysis of disease causing factors can be further used in the wellbeing of the patient. Machine learning provides various decision trees, bayesian networks, regression models that can be used for prediction of heart diseases. In this paper, we analyse the various models for prediction of heart diseases with efficient accuracy.

Index Terms: -

Heart disease, Machine Learning.

Applications of Bigdata in Machine Learning

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Abstract:--

Data revolution has changed the whole world and taking it into new generation. Machine learning and Bigdata is the main cause for data revolution leading to a complete data of new formats and unparalleled data bases. The increase in huge amount of data has led to an opportunity for Machine Learning and Bigdata to come together and to develop Machine Learning methods which are capable to hold present data types and to navigate large amount of information with minimal or no human intervention. By implementing fast and effective algorithms and information driven models for processing of data, Machine Learning is capable to give faultless results. Today Machine Learning is being vigorously utilized in a wide range of areas than we anticipate. A pure Machine Learning process, the more data provided to the system, the more it can learn from it, returning the results that are looking for, and that's why it works well with Bigdata. Without it, the Machine Learning can't keep running at its at most level and this is because of the way that with less information, the machine has less examples to gain from, and subsequently its results may be influenced. This paper gives the survey on applications and challenges of Machine Learning techniques, advanced learning methods towards Bigdata.

High Risk of Cyber Attract, Crime and Threat and It's Future Challenges in Nepal

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Abstract:--

The government organizations, citizens, business are being victims by cyber attract, crime and threats. Globally, people have been using cyber safely in their every sector of daily life but huge numbers of criminal activities are increasing day by day using ICT tools and applications against cyber. Being plus of cyber security threat and attract increases the sorrow to the stakeholders. The objective of this paper is to explorer the high risk of cyber crime, attracts, threat and its future challenges in Nepal. The study has completed by using content analysis, analysis of various national and international survey reports; and in-depth interviews with subject experts. The study claims that high risk of cyber attract, crime and threat have been increasing unexpectedly in various sector of Nepalese society. It is essential to make common strategy to reduce the increasing technical risk related to cyber. The risks of cyber attract, crime and threat is very high so, IT audit must be made compulsory in each and every organization; and use original operating system as well as application software. Strong cyber security precautions and technologies ought to adopt during installation of ICT automation. The paper claims that not only in the case of banking but also the government of Nepal has accept all rounder of cyber security personnel should appoint in government service so that expert team will be able to fight against the cyber attract and threat. Don't delay to start a job to increase the capability of cyber security force. The time is demanding the 'Cyber Army' in Nepal. The Government should not delay to form a new force 'Cyber Army'.

Index Terms

Cyber crime, Challenges, Cyber threat, Cyber attract, IT audit, e-governance

A study of effects of mica content on engineering proper-ties of river sand

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Abstract:--

It is often necessary to understand the interaction of mica mineral with the fine aggregates which is often used for construction purposes. Different research work has already being conducted by different researchers. In the present study, an attempt has been made to study the effect of mica on different engineering properties. Here, the percentage of mica by weight adopted for different test procedures are 2%,4%,6% and8%. Direct shear test, Standard proctor test, CBR test and compressive strength test were conducted by percentage replacement of locally available sand by mica. All the four standard tests has shown a decreasing trend its value.

Keywords:

Direct shear test, Standard proctor test, CBR, mica.

Functionalization of mechanically activated fly ash and its utilization in pipe jacking: A detailed review

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Abstract:--

Fly ash is an industrial waste and hazard to the environment. Fly ash is a silico-alluminate, pozzolanic material and considered as a secondary raw material for the extraction of valuable minerals, treatment of waste water and production of cement, concrete, ceramic, composite, building material, paint and plastic material. Fly ash contains both amorphous and crystalline phases of metals and metalloid oxides out of which amorphous part is only taking part in chemical reactions and makes fly ash as a usable material after suitable size reduction. Fly ash can be converted into a polymer like material by reducing it's size followed by functionalization so that fly ash can be utilized as lubricant in pipe jacking through the formation of bentonite. Mechanical activated fly ash with functionalization by Epichlorohydrin and (Aminopropyl) Triethoxy Silane can be used to reduce jacking force and skin frictional resistance in pipe jacking.

Keywords:

Fly ash; Pozzolanic; Functionalization; Jacking force; Skin friction

Emerging Role of Social Media in Crisis Management: A Study In Reference To Earthquake of 2015 in Nepal

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Abstract:--

The primary purpose of the study was to investigate the roles of social media during and after the disaster in crisis communication practice. Social media tools have changed the way people share, interact, and collaborate. During emergencies, social media is used to perform activities such as identification of safety, finding shelters and lost persons, support for incapacitated individuals, volunteer groups, fundraising, and moral support. A mixed method of research is used to meet at conclusions. The overarching research question for this study was "How users take social media in response to crisis management during 2015 Nepal Earthquake?" Social media such as Facebook, YouTube and Twitter acted as a support tool during crisis to disseminate information and request for assistance. Additionally, a survey instrument was designed to collect the respondent's opinion in regards to finding attitude and response on the "role of social media" during the catastrophic event. The sampling technique adopted was purposive convenient sampling and total of 568 respondents were selected out of which 432 valid data were used for analysis. Despite of extreme structural damage which halted nation's communication system like telephone lines, T.V and radio, this empirical study examined how efficiently communication is carried out during earthquake, pinpoints the emergent roles, analyzes the engagement between the citizens and authorities, and all in all, analyzes the effectiveness of social media during crisis. Upon analyzing the entire data and the outcomes as per the responses, it can be concluded that in current scenario of Nepalese context, whereby in recent times, in the field communication, where we have witnessed metabolic rise in development, people have well accepted the usage of social media and are well aware of the implement ability by the root level people. Across all levels of demographics, be it age, gender, marital status or even educational background, the approach and response towards roles of social media during crisis situation has been found highly positive.

Keywords:

Social Media, Roles of Social Media, Earthquake, Emergency, Crisis Management