2014 International Conference on Emerging Technologies

(ICET 2014)

Islamabad, Pakistan 8-9 December 2014



IEEE Catalog Number: CFP14617-POD **ISBN:**

978-1-4799-6090-3

Proceedings

2014 International Conference on Emerging Technologies (ICET)

ICET 2014

Table of Contents

Foreword	iii
Organizing Committee	iv
Technical Program Committee	vi
Sponsors	viii
Presented Papers	

Track: Computer Science/Software Engineering

Requirements Engineering

Multi-Aspects Based Requirements Priortization Technique for Value-Based Software Development, Falak Sher, Dayang N. A. Jawawi, Radziah Binti Mohamad and Muhammad Imran Babar	1
Knowledge Management Model for Support of Requirement Engineering, Muhammad Ahsan and Yasir Hafeez	7
Requirements Engineering Process for Software-as-a-Service (SaaS) Cloud Environment, Anum Tariq, Shoab Ahmed Khan and Sundas Iftikhar Ahmed	13
Software Engineering	

An evaluation of personal and interpersonal competencies of project managers, Aamer Hanif and Saleem Tariq	19
A State-based Fitness Function for the Integration Testing of Object-Oriented	24

Programs, Muhammad Bilal Bashir and Aamer Nadeem

Service Integration for Biometric Authentication, Shazia Javed and Ulrich	30
Norbisrath	

Semantic Analysis, Image Processing, Bio Informatics

Analysing the Performance of EIT Images Using the Point Spread Function: Alamgir Naushad, Ahmar Rashid and Suleman Mazhar	36
A novel approach for automatic gene selection and classification of gene based colon cancer datasets, Saima Rathore, Mutawarra Hussain and Muhammad Aksam Iftikhar	42
Hybrid Modeling of p53 and Akt associated Gene Regulatory Network, Farzana Bibi and Jamil Ahmad	48
The Internet of Things: Challenges & Security Issues, Gurpreet Matharu, Priyanka Upadhyay and Lalita Chaudhary	54

Computer Networks, Cloud Computing and Cryptography

Performance Comparison of Hadoop Clusters Configured on Virtual machines and as a Cloud Service, Muhammad Faraz Hyder, Muhammad Ali Ismail and Hameeza Ahmed

On the Controllability of a Sampled-Data System under Nonuniform Sampling, Muhammad Niaz Ahmad, Ghulam Mustafa, Abdul Qayyum Khan and Muhammad Rehan

A Novel Vehicle-to-Grid Technology with Constraint Analysis-A Review, Salman 69 Habib and Dr. Muhammad Kamran

Encryption, Cryptography and Security

Oppel-2: A New Family of FCSR-based Stream Ciphers, Arshad Ali	75
Comparative Analysis of Chaotic and Non-chaotic Image Encryption Schemes, Muhammad Bin Younas and Jawad Ahmad	81
Security Analysis of VoIP Architecture for Identifying SIP Vulnerabilities, Ubaid Ur Rehman and Abdul Ghafoor Abbasi	87

Information Retrieval & Machine Learning

A Semantic Rules & Reasoning based Approach for Diet and Exercise	94
Management for Diabetics, Irshad Faiz, Hamid Mukhtar, Ali Mustafa Qamar and	
Sharifullah Khan	
Utilizing Distinct Terms for Proximity and Phrases in the Document for Better	100
Information Retrieval Muhammad Imran Rafique and Mehdi Hassan	

Track: Electrical Engineering

Cognitive Radio Networks

Throughput Optimization For Cognitive Radio While Bulwarking Primary User, Zunnorain A.A. Baig, Aqdas N. Malik and Ijaz M. Qureshi	106
A Mitigation Strategy against Malicious Primary User Emulation Attack in Cognitive Radio Networks, Bilal Naqvi, Shafaq Murtaza and Baber Aslam	112
Performance of Double Threshold Energy Detection in Cooperative-Cognitive Networks over Nakagami-m Fading Channels using Square Law Combining Technique, Atta Ur Rahman, Ansar Ul Haq, Muhammad Adnan, Imran Khan and Ibrar Ali Shah MEMS, Robotics & Sensing Applications	118
THE REPORTS & Sensing Appleations	
A Novel Design of RF MEMS Shunt Switch with dimples and meanders, Muhammad Qamar Ul Hassan	122
Vibration-based Electromagnetic type Energy Harvester for Bridge Monitoring Sensor Application, Farid Khan and Iftikhar Ahmad	125
A Bi-directional Prototype Mobile Robot to Experiment Light Scale Object-	130

A Bi-directional Prototype Mobile Robot to Experiment Light Scale Object-Transportation Schemes, Muhammad Bilal Khan, Muhammad Awais Hussain, Khurram Shahzad, Sajid Nawaz, Muhammad Umar Touseef and Raja Jawad Ali Khan

Power and Energy Systems

Design and Implementation of an Intelligent Energy Saving System, Adil Murad, Salim Ullah, Arif Ali Shah, Kiramat Ullah Khan, Asif Ali Khan and Laiq Hasan	135
An Efficient Off-Grid High-Elevation Electric Generation System Using Wind Power, Arif Ali Shah, Salim Ullah, Syed Aamir Ali Shah, Muhammad Asif Manzoor and Khawaja Muhammad Yahya	139
MEMS Based Wireless Energy Harvesting Mechanism for ECG and BCG Application, Ahmad Usman, Mohsin Mukhtar and Rana Muhammad Umer	142

Communications

Range and Doppler Estimation of Multiple Moving Targets for Pulsed Doppler Radars with CFAR Detector at Very Low SNRs, Muhammad Butt and Sufi Gul	147
A High Speed Transmitter for Visible Light Communications upto 50 Mbps, Abdullah Ahmed, Jamal Ahmad and Usman Younis	153
Electro-textile based wearable patch antenna on biodegradable Poly Lactic Acid (PLA) plastic substrate for 2.45 GHz, ISM band applications, Haroon Haroon, Sadiq Ullah and James A Flint	158

AUTHORS INDEX

164