

2011 IEEE International Conference on Electro/Information Technology

(EIT 2011)

**Mankato, Minnesota, USA
15 – 17 May 2011**



**IEEE Catalog Number: CFP11EIT-PRT
ISBN: 978-1-61284-465-7**

TABLE OF CONTENTS

A Hybrid Semi-Blind Digital Image Watermarking Technique using Lifting Wavelet Transform – Singular Value Decomposition	1
<i>Meenakshi Arya, Rajesh Siddavatam, S P Ghreera</i>	
Face Recognition Against Variation in Pose and Background	7
<i>Prakash Khanale</i>	
Generation of Database Schemas from Z Specifications	12
<i>Saeed Khalafinejad, Seyed-Hassan Mirian-Hosseinabadi</i>	
Intelligent Agent based Job Search System in Android Environment	19
<i>Salathiel Bogle, Suresh Sankaranarayanan</i>	
Retinal Image Segmentation Using Texture, Thresholding, and Morphological Operation	25
<i>Aqeel F. Aqeel, Subramaniam Ganesan</i>	
Intelligent Information Retrieval Lifecycle Architecture Based Clustering Genetic Algorithm using SOA for Modern Medical Industries	31
<i>Naser El-Bathy, Ghassan Azar, Mohammed El-Bathy, Gordon Stein</i>	
Illumination-Reflectance Based Novel approach for Level Set Evolution	38
<i>Raghotham Reddy Ganta, Syed Zaheeruddin, Narsimha Baddiri, Rameshwar Rao</i>	
Parameters Evaluation of Unified Power Quality Conditioner	43
<i>Ahmed Haidar, Chellali Benachaiba, Faisal A. F. Ibrahim, Kamarul Hawari</i>	
Novel Regression Approach to Estimate the Parameters of "Universal Scalability Law"	49
<i>Jayanta Choudhury</i>	
Network Performance Evaluation of Microsoft Office Communications Server 2007	54
<i>Patrick Seeling</i>	
Measurement of Super High Voltage Transmission Line Electric Field Effecting on Environment	60
<i>Alexandr Sidorov, Irina Okrainskaya, Sergey Gladyshev</i>	
Comparison of Different Signal Processing Methods for Reducing Artifacts from Photoplethysmograph Signal	64
<i>Kali Vara Prasad Naraharisetti, Manan Bawa</i>	
Cost Reduction on High-Speed 1D IDCT Architecture based on Time Rescaling	72
<i>Yu-Chi Tsao, Ken Choi</i>	
Pavement Pothole Detection and Severity Measurement Using Laser Imaging	78
<i>Ezzatollah Salari, Xinren Yu</i>	
SOCKx - An Application Layer Network Switching Framework using SOCKSv5 Protocol Extensions	83
<i>Steffen Haase, Patrick Seeling</i>	
Automated Pavement Distress Inspection based on 2D and 3D Information	87
<i>Ezzatollah Salari, Guanqun Bao</i>	
Parallelizing AES on Multicores and GPUS	91
<i>Christian Trefftz, Julian Ortega, Helmuth Trefftz</i>	
Development of a Transmission Simulator based on Hierarchical Model	96
<i>Sang Hyuck Han, Min Hyung You, Jin Hyeok Im, Young Kuk Kim</i>	
A Keyword Spotting Experiment Using Perceptually Significant Features	103
<i>Padmalochini Umakanthan, Kaliappan Gopalan</i>	
Achieving Distributed Buffering in Multi-path Routing using Fair Allocation	107
<i>Ali Al-Dhafer, Tricha Anjali, Alexandre Fortin</i>	
Environmental Sensor Network Data Packaging and Transmission via Cellular Networks	113
<i>Hamid Fahim Rezaei, Paul Haugen, Anton Kruger, James Niemeier</i>	
Predictive Multi-channel Feedback Active Noise Control for HVAC Systems	117
<i>Naga Devineni, Issa Panahi, Prashant Kasbekar</i>	
Analysis and Real Time Implementation of 2-channel Adaptive Speech Enhancement Using Labview FPGA	122
<i>Naga Devineni, Issa Panahi</i>	
Various Approaches in Analyzing Android Applications with its Permission-Based Security Model	126
<i>Itipon Rassameeroj, Yuzuru Tanahashi</i>	
Dielectric Electroactive Polymer Energy Harvesting System Forward Path Design for Different Vibration Input Patterns	132
<i>Wei Wang, Peiwen He, Setiawan Soekamtoputra, Ken Choi, Gyungsoo Kang, Soohyun Kim, Feng Ge</i>	
sEMG Based Real-Time Embedded Force Control Strategy for a Prosthetic Hand Prototype	138
<i>Chandrasekhar Poturi, Yimesker Yihun, Parmod Kumar, Jeff Molitor, Steve Chiu, Hossein Mousavinezhad, Subbaram Naidu</i>	

Development of Tree-type Wireless Acquisition Network with Application to Structure Vibration Test in Variational Magnetic Field	144
<i>Xiaohui Xiao, Kun Fan, Yang Piao, Xiaozhao Wang, Quan Zhou, Juan Luo</i>	
Electrical and Structural Properties of Aligned Aluminum-Doped Zinc Oxide Nanorod Arrays via a Novel Sonicated Sol-Gel Immersion	149
<i>Mohamad Hafiz Mamat, Zuraida Khusaimi, Musa Mohamed Zahidi, Uzer Mohd Noor, Mohamad Rusop Mahmood</i>	
Conditioning Circuit Development for Capacitive Sensor with Application to Nano-positioning System	154
<i>Xiaohui Xiao, Yang Piao, Quan Zhou, Xiaozhao Wang, Kun Fan, Pinkuan Liu</i>	
Sputter Coated Nanocrystalline ZnO for Fabrication of Thin Film Transistors	160
<i>Nikilesh Kopparthi, Madhav Gautam, Ahalapitiya H. Jayatissa</i>	
Design Flow for Robust License Plate Localization	165
<i>Dhawal Wazalwar, Erdal Oruklu, Jafar Saniie</i>	
Collaborative Learning and Teamwork Over the Web	170
<i>Jafar Saniie, Vijay Anand, Richard Hanley, Erdal Oruklu, Tricha Anjali</i>	
Frequency Domain Symbol Synchronization for OFDM Systems	174
<i>Te-Lung Kung, Keshab Parhi</i>	
Agent based TDMA Schedule for Wireless Sensor Networks (sensor-TDMA)	179
<i>Ashok Prajapati, Subramaniam Ganesan</i>	
Analyzing Tweets to Identify Malicious Messages	187
<i>Kristofer Beck</i>	
Application of Factor Analysis to Customer Survey Data Processing for Generating Metrics that Underlie Customers' Responses	192
<i>Yuri Langer, Mark Yoder, Susan Hull, Mark Bieniulis</i>	
Development of an Instrument to Detect Trace Elements in Food, Beverages and Biological Samples	196
<i>Saleh Faruque</i>	
Fuzzy Rule Extraction using Hybrid Evolutionary Models for Data Mining Systems	200
<i>Imaz Edalat, Mohammad S. Abadeh, Ali Nayyerirad</i>	
Rated Power Increment and VSWR Characteristics Improvement of Termination Resistor	205
<i>Akhlaqur Rahman, Fred Olinger, Michael Howieson</i>	
Component Packaging Footprint: Surprising Element of High Speed Filter Design	211
<i>Akhlaqur Rahman, Mark Broman, Michael Howieson</i>	
A Class of Wireless Network Coding Schemes	215
<i>Gui-Liang Feng, Itthichok Jangjaimon, Ryan Benton</i>	
Secure Data Transmission Using Video Steganography	221
<i>Naveen G, Balaji R</i>	
Model-based Software-defined Radio(SDR) Design Using FPGA	226
<i>Anton S Rodriguez, Michael C Mensinger, In Soo Ahn, Yufeng Lu</i>	
Architectural and Data Model of Clinical Decision Support System for Managing Asthma in School-aged Children	232
<i>Liljana Aleksovska - Stojkowska, Suzana Loskovska</i>	
Soft Input Decryption Using Selective Bit Flipping Combinations Strategy	238
<i>Ayyaz Mahmood, Natasa Zivic</i>	
Design of a Novel Low Power 6-T CNFET SRAM Cell Working in Sub-Threshold Region	244
<i>Zhiyuan Yu, Yinhui Chen, Haiqing Nan, Wei Wang, Ken Choi</i>	
Ultralow Power SRAM Design in Near Threshold Region using 45nm CMOS Technology	249
<i>Yinhui Chen, Zhiyuan Yu, Haiqing Nan, Ken Choi</i>	
Intelligent Extended Clustering Genetic Algorithm	253
<i>Naser El-Bathy, Ghassan Azar, Mohammed El-Bathy, Gordon Stein</i>	
Low Power Process Monitoring Circuit in Near-Threshold Region for Deeply Scaled CMOS Technology	258
<i>Bohan Lin, Fan Wu, Haiqing Nan, Ken Choi</i>	
A Distributed Intrusion Detection Scheme for Wireless Sensor Networks	263
<i>Olatunde Abiona, Safiriyu Eludiora, Ayodeji Oluwatope, Sururah Bello, Mistura Sanni, Dauda Ayanda, Clement Onime, Rotimi Adagunodo, L. O. Kehinde</i>	
Comparison of Time Frequency Analysis Techniques for Ultrasonic NDE Signal	268
<i>Yufeng Lu, In Soo Ahn</i>	
Knowledge Integration of Collaborative Product Design Using Cloud Computing Infrastructure	274
<i>Mahdi Bohlouli, Alexander Holland, Madjid Fathi</i>	
ADC Spectral Performance Measurement Uncertainty in DFT Method	282
<i>Jingbo Duan, Degang Chen</i>	

Capsule Image Segmentation in Pharmaceutical Applications Using Edge-Based Techniques	286
<i>Mohammed Islam, Saleh Basalamah, Majid Ahmadi, Maher A. Sid-Ahmed</i>	
Reconfigurable Architectures for Silicon Physical Unclonable Functions	291
<i>Yingjie Lao, Keshab Parhi</i>	
A Novel 9T SRAM Design in Sub-Threshold Region	298
<i>Arun Ramnath Ramani, Ken Choi</i>	
Design optimization using Genetic Algorithm and Cuckoo Search	304
<i>Anil Kumar, Shampa Chakarverty</i>	
Energy Reductions for Embedded Processors in Reconfigurable Hardware	309
<i>Muhammad Hasan, Mathew Bird</i>	
High SNM 6T CNFET SRAM Cell Design Considering Nanotube Diameter and Transistor Ratio	317
<i>Wei Wang, Zhiyuan Yu, Ken Choi</i>	
Performance Evaluation of a Turbo Codec with Log-MAP algorithm on FPGA and CPU	321
<i>Hector Ivan Reyes, Naima Kaabouch, Wen-Chen Hu, Anlie Wang</i>	
Architectural Design Tool for Low Area, Band Matrix LU Factorization	327
<i>Semih Aslan, Erdal Oruklu, Jafar Saniie</i>	
Architectural Topologies for NoC Datapath Polymorphic Processors	333
<i>Joshua Weber, Erdal Oruklu, Jafar Saniie</i>	
Application Commerce: Security Challenges and Workflows	339
<i>Vijay Anand, Jafar Saniie, Erdal Oruklu</i>	
Extraction of Linear Features based on Beamlet Transform	345
<i>Yuan Zhu, Ezzatollah Salari</i>	
A New Method for Foetal Electrocardiogram Extraction Using Adaptive Nero-Fuzzy Interference System Trained With PSO algorithm	351
<i>Arman Sargolzaei, Karim Faez, Saman Sargolzaei</i>	
Fast & Accurate Algorithm for Jitter Test with a Single Frequency Test Signal	356
<i>Minshun Wu, Degang Chen, Jingbo Duan</i>	
Incremental Location Searching for Route Anomaly Detection	361
<i>Wen-Chen Hu, Naima Kaabouch, Lei Chen, Hung-Jen Yang</i>	
A Multi-agent Model of Yellowjacket Wasp Nest Construction	367
<i>Karl Altenburg</i>	
Free Space Laser Communication Based on Orthogonal On-Off Keying	375
<i>Saleh Faruque</i>	
Simulation for Energy Harvesting System Based on Dielectric Electro Active Polymers	379
<i>Ken Choi, Feng Ge, Wei Wang, Gyungsoo Kang, Soohyun Kim, Peiwen He</i>	
High Sensitivity and Low Power Skin Sensor Implementation and Performance Comparison using CMOS and CNFET	384
<i>Ken Choi, Ho Joon Lee, Haiqing Nan, Kyung Ki Kim</i>	
Discrete Cosine Transform(DCT)-based Reconfigurable System Design	389
<i>Mandeep Alluru, In Soo Ahn, Yufeng Lu</i>	
Energy Aware Adaptive Clustering in Wireless Sensor Networks	393
<i>Girma Tewolde, Weihua Sheng</i>	
Automated Electronic Pen Aiding Visually Impaired in Reading and Visualizing Textual Contents	399
<i>Joshi Kumar, Madhan Prabhu, Mohan Raj</i>	
Remote Avian Monitoring System for Wind Turbines	405
<i>Mohsin Jamali, Brett Snyder, John Williams, Ryan Kindred, Gavin St. John, M. W. Majid, J. Ross, J. Frizado, P. V. Gorsevski, V. Bingman</i>	
Author Index	