

2012 Seventh International Conference on Computer Engineering & Systems

(ICCES 2012)

Cairo, Egypt
27 – 29 November 2012



IEEE Catalog Number: CFP1254A-PRT
ISBN: 978-1-4673-2960-6

Table of Contents

You Are Welcome	iii
ICCES'2012 Paper Statistics	iv
ICCES'2012 Reviewers	vii
ICCES'2012 Committees	x
Table of Contents	xii

Plenary Talks

Plenary Talk I: A Dynamic Approach to Semantic Content Modeling	xvii
Prof. Marius Crisan	
A Dynamic Approach to Semantic Content Modeling.....	xx
Marius Crisan	
Plenary Talk II: Bio-inspired Autonomous Dynamical Systems for Interactive and Cognitive Environments	xxvi
Prof. Carlo S. Regazzoni	

Industry Talk

eMisr – Egypt Broad Band Plan: The Regulatory Challenges	xxxI
Dr. Amr Badawi	

Session CN: Computer Networks & Security

MCDM based Joint Admission Control for Heterogeneous Wireless Networks.....	3
Mohammed M. Alkhawiani	
A New Cross Layer Based Routing Technique for Mobile Ad Hoc Networks Using Forwarding Node Selection.....	9
Abdulmalek Alqobaty, Samir Shaheen, and Saleh Ibrahim	

<i>New Fuzzy-Based Indoor Positioning Scheme Using ZigBee Wireless Protocol</i>	<i>16</i>
Azza K. Nabih, Hossam Osman, Mostafa Gomaa, and Gamal M. Aly	
<i>Performance Evaluation of Digital Modulation Techniques Used in Bluetooth Physical/Radio Layer.....</i>	<i>21</i>
Islam Galal, Mostafa E. A. Ibrahim, Hossam E. Ahmed, and Abdelhalim Zekry	
<i>On the Attack of Misaligned Traces by Power Analysis Methods.....</i>	<i>28</i>
Qizhi Tian and Sorin A. Huss	
<i>Dynamic Security Architecture for Next Generation Wireless Networks.....</i>	<i>35</i>
Khaled Y. Youssef, Ahmed A. Hafez, and Abdel Halim A. Zekry	

Session CS: Control Systems & Robotics

<i>Disturbance Rejection Adaptive Control Design for Multi-Input Chaotic Systems.....</i>	<i>43</i>
A. H. Tahoun	
<i>Visual Sensory System for a Movable Platform Pose.....</i>	<i>49</i>
Magdy M. Abdelhameed, Hazem M. Abbas, Mohamed A. Awad, and Abeer M. Sabry	
<i>Multi-Stage Localization Given Topological Map for Autonomous Robots</i>	<i>55</i>
Mohammed A.-Megeed Salem	
<i>Evolutionary Computation Applictaion in Power Level Control of Nuclear Power Station ..</i>	<i>61</i>
Hamdi M. Mousa, Magdy A. Koutb, Sayed M. El-araby, and Elsayed H. M. Ali	
<i>Real-Time Multi-object Detection and Tracking for Autonomous Robots in Uncontrolled Environments</i>	<i>67</i>
Tarek Said, Samy Ghoniemy, and Omar Karam	

Session EC: Electronics & Communications

<i>Implementation and Evaluation of Variable Bit Rates CELP Coder</i>	<i>75</i>
Eman Mohammed Mahmoud, Talaat A. Elgarf, Ahmed Abd Elhafez, and Abd El-halim Zekry	
<i>Performance Improvement of the OFDM System Based on Fractional Fourier Transform over Doubly Dispersive Channels</i>	<i>81</i>
Mohamed H. Azmy, Sherif Elgamel, Ashraf Mamdouh, and Khairy Abd El-Nabi El-Barbary	
<i>Efficient Sensitivity Analysis of Optical Structures Using Finite Element Method.....</i>	<i>86</i>
Mohamed R. Abdelhafez and Mohamed A. Swillam	

Legendre Neural Networks With Multi Input Multi Output System Equations 92
Hazem H. Ali and Mohammed T. Haweel

Memristor-Based Relaxation Oscillators Using Digital Gates 98
M. A. Khatib, M. E. Fouda, A. G. Mosad, K. N. Salama, and A. G. Radwan

Memristor-Based Oscillator Using Deboo Integrator 103
A. H. ElSamman, A. G. Radwan, and A. H. Madian

Session EV: Evolutionary Computing

Single Multiplicative Neuron Model based on Generalized Mean 111
Mohamed A. Attia, Elsayed A. Sallam, and Mahmoud M. Fahmy

Error Detection and Correction Approach for Arabic Sign Language Recognition 117
Ahmed Samir and Magdy Aboul-Ela

A Neural Network Preprocessing Model for OMI Aerosol Optical Depth Data Assimilation 124
A. Ali, S. E. Amin, H. H. Ramadan, and M. F. Tolba

Semantic Graph Reduction Approach for Abstractive Text Summarization 132
Ibrahim F. Moawad and Mostafa Aref

Session IP1: Image Processing (I)

Hybrid Scheme for Lifting Based Image Coding 141
Walaa M. Abd-elhafiez and Mahmoud. A. Mofadel

Color Restoration of Old Photos Using the Curvelet Transform 147
Ayman M. T. Ahmed

A New Symmetry Detection Approach in IC Layouts 154
Heba Ahmed Attwa, Mahmoud I. Khalil, and Hazem Abbas

Session IP2: Image Processing (II)

Statistical vs. Visual Data Generation in Hand Gesture Recognition 163
Ahmed Ibrahim and Rasha Kashef

Biometric OAuth Service based on Finger-Knuckles 170
Ibrahim A. Gomaa, Gouda I. Salama, and Ibrahim F. Imam

Multimodal Biometric Authentication Algorithm Using Ear and Finger Knuckle Images... 176
A. Tharwat, Abdelhameed F. Ibrahim, and Hesham A. Ali

Experimental Comparison of Classifiers for Breast Cancer Diagnosis..... 180
Gouda I. Salama, M. B. Abdelhalim, and Magdy Abd-elghany Zeid

A Novel Feature Set for Deployment in ECG Based Biometrics..... 186
M. Tantawi, K. Revett, M. F. Tolba, and A. Salem

Session MU: Multimedia & Web Applications

GPU Implementation for Hyperspectral Image Analysis using Recursive Hierarchical Segmentation 195
Mahmoud A. Hossam, Hala M. Ebied, and Mohamed H. Abdel-Aziz

Kernel-PCA for Face Recognition in Different color Spaces 201
Hala M. Ebied

Secure and Robust High Quality DWT Domain Audio Watermarking Algorithm with Binary Image 207
A. R. Elshazly, M. M. Fouad, and M. E. Nasr

Session PM: Electrical Power & Machines

Optimal Conductor Selection and Capacitor Placement for Loss Reduction of Radial Distribution Systems by Selective Particle Swarm Optimization..... 215
Tamer M. Khalil and Alexander V. Gorpich

Modeling and Simulation of Volture Piezoelectric Energy Harvester..... 221
Wahied G. Ali, Sutrisno W. Ibrahim, and Ahmed Telba

Comparison between Resistive and Inductive Superconducting Fault Current Limiters for Fault Current Limiting 227
Mohamed M. Aly and Emad A. Mohamed

Performance of Adaptive Modulation with Generalized Selection Combining in Different Practical Scenarios..... 233
Admoon Andrawes

Session SD1: Software Engineering & Databases (I)

Ontology-based Model for Rational Unified Process Artifacts Traceability..... 241
Soha M. Yassin, Ibrahim F. Moawad, Rania El Gohary, and Mohamed F. Tolba

<i>Automatic Generation of Multi-Testing Types Test Cases Using Requirements-Based Testing</i>	249
P. N. Boghdady, N. L. Badr, M. A. Hashem, and M. F. Tolba	
<i>An Evaluation of Enterprise Architecture Frameworks for E-Government</i>	255
Mohamed Ali Mohamed, Galal Hassan Galal-Edeen, Hesham Ahmed Hassan, and Ehab Ezzat Hasani	
<i>Argumentation Based Negotiation in Multiagent System</i>	261
Ashraf B. El-Sisi and Hamdy M. Mousa	
<i>Intelligent Negotiation Agent in Plastic Market</i>	267
Raid Mohsen Alhazmi and Sungchul Hong	

Session SD2: Software Engineering & Databases (II)

<i>Ranking in Uncertain Distributed Database Environments</i>	275
Yousry AbdulAzeem, Ali ElDesouky, and Hesham Ali	
<i>Mobile Development Process Spiral</i>	281
Ann Nosseir, Derek Flood, Rachel Harrison, and Osman Ibrahim	
<i>Efficient Soft Relational Clustering based on Randomized Search Applied to Selection of Bio-Basis for Amino Acid Sequence Analysis</i>	287
Mohamed A. Mahfouz and Mohamed A. Ismail	
<i>Automatic Pseudo-Random Regression Testing For GUI-Centric Embedded Software</i>	293
Mai Daftedar and Mohamed Shalan	

Author Index