

2011 IEEE International Conference on Control System, Computing and Engineering

(ICCSCE 2011)

**Penang, Malaysia
25-27 November 2011**



**IEEE Catalog Number: CFP1114R-PRT
ISBN: 978-1-4577-1640-9**

Table of Contents

	Page
<i>Copyright</i>	ii
<i>Organizing Committee</i>	iii
<i>Reviewers</i>	iv
<i>Table of Contents</i>	v
Paper Title & Authors	
Study of the Effect in the Output Membership Function When Tuning a Fuzzy Logic Controller	1
Mohd Shahriel bin Mohd Aras, Fadilah binti Abdul Azis, Fara Ashikin binti Ali, Syed Mohamad Shazali b Syed Abdul Hamid and Shahrum Shah b Abdullah	
Self Adaptive Neuro-Fuzzy Control of FES-Assisted Paraplegics Indoor Rowing Exercise	7
Z. Hussain, S. Z. Yahaya, R. Boudville, K. A. Ahmad and M. H. Mohd Noor	
Indoor Empirical Path Loss Prediction Model for 2.4 GHz 802.11N Network	12
Solahuddin, Y. F. and Mardeni, R.	
Multilevel Thresholding of Gel Electrophoresis Images Using Firefly Algorithm	18
M. H. Mohd Noor, A. R. Ahmad, Z. Hussain, K. A. Ahmad and Ainihayati A. R.	
Improvement Moving Vehicle Detection Using RGB Removal Shadow Segmentation	22
K. A. Ahmad, M. H. Mohd Noor, Z. Hussain, M. A. Mohd Idin and Noramalina Abdullah	
Modeling Virtual Driving Environment for a Driving Simulator	27
Nariman Fouladinejad, Nima Fouladinejad, M. K. Abd Jalil and J. M. Taib	
Regressive Linear Prediction with Doublet for Speech Signals	33
Satya Kumar V., Anup Kumar Gogoi and Gupteswar Sahu	
Determination of Wheel Acceleration / Deceleration for Use in Integrated Stability Control Systems	37
Koustubh Tilak, Swapnil Ghugal, Sneha Singh, Ujjwala Karle, K. Prasanna Venkatesan and S. Anand Subramaniam	
Introduction to the Nonlinear PI²D² Control	43
Farshad Merrikh-Bayat and Nafiseh Mirebrahimi	
Identification of Multiple Input-Single Output (MISO) Model for MPPT of Photovoltaic System	49
M. N. M. Hussain, A. M. Omar and A. A. A. Samat	

Electronically Tunable Voltage-Mode MIMO Universal Filter Using Single-Ended OTAs	54
Montree Kumngern and Kobchai Dejhan	
High Input Impedance Voltage-Mode Universal Filter Using OTAs and Grounded Capacitors	58
Montree Kumngern	
Design of a Parallel Distributed Fuzzy LQR Controller for Double-Pendulum-Type Overhead Cranes	62
Mahdieh Adeli, Seyedeh Hamideh Zarabadi, Hassan Zarabadipour and Mahdi Aliyari Shoorehdeli	
ANFIS Based Modeling for Overtaking Maneuver Trajectory in Motorcycles and Autos	68
Ali Ghaffari, Alireza Khodayari, Fatemeh Alimardani and Hossein Sadati	
Decomposition of Mixed Pixels of ASTER Satellite Data for Mapping Chengal (Neobalanocarpus heimii sp) Tree	74
Noordyana Hassan and Mazlan Hashim	
A Scaled Experiment 2 for Verification of SPLINE Interpolation Technique for Sea Bed Logging Method	80
Hanita Daud, Noorhana Yahya, Vijanth Sagayan and Muizzuddin Talib	
Evolutionary Normal-Boundary Intersection (ENBI) Method for Multi-objective Optimization of Green Sand Mould System	86
T. Ganesan, I. Elamvazuthi and P. Vasant	
Energy Efficient Algorithm for Heterogeneous Wireless Sensor Network	92
N.Tuah, M. Ismail and K. Jumari	
High Precision Laser Tracker System for Contactless Position Measurement	97
Tran Trung Nguyen, Arvid Amthor and Christoph Ament	
Using Semantic Web Ontologies for Better Inter-Operability on Social Network Sites	103
Morteza Jamalzadeh and Navid Behravan	
Decision Rules for Allophone Synthesis of Malay Text-to-Speech System	109
K. M. Ng and N. M. Khairi	
Dynamic Simulation of Sit to Stand Exercise for Paraplegia	114
Norazhar Abu Bakar and Abdul Rahim Abdullah	
Dynamic Programming Approach on Pipelined Optical Bus Systems for Finding the Longest Upsequence	119
Haklin Kimm and Fenglien Lee	
Key Technologies of Mainstream Software Sharing Platform for Oil & Gas Exploration and Development	124
Chen Haixiong and Jiang Duoyuan	
Audio Sub Word Sorter Unit on Merger Sorter Network for Secure Transmission	127
Gaurav Vijay Bansod	

Comparison of CPU and GPU Implementation of Computing Absolute Difference Mohd Haziq Rahmad, Soo Saw Meng, Ettikan Kandasamy Karuppiah and Hong Ong	132
Multi-Objective Optimization of Remotely Operated Vehicle Control System Using Surrogate Modeling M. F. Nor Shah, S. S. Abdullah and A. Faruq	138
Design of Closed-loop Analyzer for Micromachined Thermal Conductivity Sensor Melli S.A. and Mozafari. M.	144
Application of Model Based Sensor Fault Tolerant Control System E. C. Mid, Faranadia A. H. and S. S. Yang	150
An ANFIS Design for Prediction of Future State of a Vehicle in Lane Change Behavior Ali Ghaffari, Alireza Khodayari, Saeed Arvin and Fatemeh Alimardani	156
Model Reference Input for an Optimal PID Tuning Using PSO Mazidah Tajjudin, Ramli Adnan, Norlela Ishak, Mohd Hezri Fazalul Rahiman and Hashimah Ismail	162
A Dual Stack IPv4/IPv6 Testbed for Malware Detection in IPv6 Networks Altyeb Altaher, Sureswaran Ramadass and Ammar Ali	168
A New Proposal for a Digital Evidence Container for Security Convergence Kyung-Soo Lim, Deok Gyu Lee and Jong Wook Han	171
Condition for Global Stability of Continuous Time Delayed Linear System with Saturated Inputs: LMI Based Approach Richa Negi, Abhishek Kumar Tiwary, Shubhi Purwar and Harnath Kar	176
Discrimination of Vision Impairments Using Single Trial VEPs Vikneswaran Vijean, M. Hariharan and Sazali Yaacob	182
Robust Adaptive Controller and Observer Design for a Class of Nonlinear Systems with Unknown Backlash- Like Hysteresis Ibrahim F. Jasim	187
Optimization of Electrical Power in Multistage Centrifugal Compressors Hadis Mohammadi and Milad Kermani	193
Multi-Objective Optimization of an Evaporator Control System Using Surrogate Modeling M. F. Nor Shah, S. S. Abdullah and A. Faruq	198
Modeling and Fuzzy Control of 3-DOF Image Stabilizer in Presence of Uncertainty and Disturbance Elham Javanfar and AliReza Fatehi	204
Multisensor Data Fusion: Target Tracking with a Doppler Radar and an Electro-Optic Camera Shuaib Omar and Simon Winberg	210
Handover Signaling for Mobile User in Relay LTE-Advanced Environment Nurzal Effiyana Ghazali and Sharifah Hafizah Syed Ariffin	216

Development and Use of Remote Controlled HD Videoconference System in JAPAN	221
Takeshi Sakurada, Yoichi Hagiwara and Tadasuke Furuya	
Social Networks and Its Impact on Knowledge Management	227
Ammar Rashid, William Y. C. Wang and Kamarul Faizal Hashim	
Power Stability Improvement for Wave Generator System Using STATCOM	231
Hwa Chang Sung and Jin Bae Park	
Blood Cell Image Segmentation using Hybrid K-means and Median-cut Algorithms	237
T. Zalizam T. Muda and Rosalina Abdul Salam	
Development of Wireless Controller Area Network Using Low Cost and Low Power Consumption ARM Microcontroller for Solar Car Application	244
Goh Chin Hock, Choke Ven Han, Oon Kheng Heong, Norashidah Md Din, Aiman bin Ismail, Md Zaini Jamaludin and Chandan Kumar Chakrabarty	
Concept of Automated Load Detection for De-Palletizing Using Depth Images and RFID Data	249
Christian Prasse, Sebastian Skibinski, Frank Weichert, Jonas Stenzel, Heinrich Müller and Michael ten Hompel	
Low Complexity User and Spatial Detection by Using AD8313 Evaluation Board	255
Goh Chin Hock, Wong Jee Keen Raymond, Tiong Siek Kiong and Chandan Kumar Chakrabarty	
ECG Signals Based Mental Stress Assessment Using Wavelet Transform	258
P. Karthikeyan, M. Murugappan and S. Yaacob	
Genetic-optimized neuro-fuzzy inference system (GONFIS) in nonlinear system identification	263
B. Mehrkian, A. Bahar and A. Chaibakhsh	
Sedimentation Characteristics Study on the Confluence of Two Rivers Using Meshless Local Petrov-Galerkin Method	269
Basuki Widodo	
Fuzzy PID Controller Design for Snake Robot Based on SMA Actuators	274
A. Khodayari, M. M. Kheirikhah and S. Rabiee	
Web-based Technologies in Power Plant Automation and SCADA Systems: A Review and Evaluation	279
Juha P. Lahti, Ahm Shamsuzzoha and Timo Kankaanpää	
Energy Potential Detection for Autarkic Smart Object Design in Facility Logistics	285
Andreas Kamagaew, Thomas Kirks and Michael ten Hompel	
Design of Fractional Order PID Controller for Liquid Level Control of Spherical Tank	291
K. Sundaravadivelu, B. Arun and K. Saravanan	
Focal Epileptic Seizure Forecasting in EEG Signals Using Wavelet Transform and Artificial Neural Networks	296
K. A. Helini Kulasuriya and M. U. S. Perera	

Design of Patch Antennas Array At Low Frequency Application by Using Unknown FR4 Material	302
Goh Chin Hock, Nguyen Thi Ngoc Tho, Chandan Kumar Charabarty and Tiong Sieh Kiong	
Anti-swing Control for a Double-Pendulum-Type Overhead Crane Via Parallel Distributed Fuzzy LQR Controller Combined with Genetic Fuzzy Rule Set Selection	306
Mahdieh Adeli, Hassan Zarabadipour, Seyedeh Hamideh Zarabadi and Mahdi Aliyari Shoorehdeli	
Force Control of a SMA Actuated Gripper by Using Self Tuning Fuzzy PID Controller	312
Alireza Khodayari, Mohammad Mahdi Kheirikhah, Banafshe Zarefar and Ehsan Mirsadeghi	
A New Online Tuning Approach for PID Control of Multivariable System Using Diagonal Recurrent Neural Network	317
Tarun Varshney and Satya Sheel	
A Study on Generic Conceptual Framework for Customized Mobile Learning Management System (CMLMS)	321
Ahmad Sobri Hashim and Wan Fatimah Wan Ahmad	
Optimization of the Multi-Flow Rate Mode Selection for a Pneumatic Dispensing Valve System Using Clonal Selection Based Artificial Immune System Algorithm	327
M. W. Yaw, S. P. Koh and K. H. Chong	
Performance Enhancement of DSS Using Rabbit Streamcipher	332
S. Sharmila and G.Umamaheshwari	
Design of an Adaptive Nonlinear PID Controller for Nonholonomic Mobile Robot	337
Ahmed S. Al-Araji, Maysam F. Abbod and Hamed S. Al-Raweshidy	
Positioning and Tracking Control of an XY Table	343
Hashimah Ismail, Norlela Ishak, Mazidah Tajjudin, Mohd Hezri Fazalul Rahiman and Ramli Adnan	
Data Compression Technique for Modeling of Global Solar Radiation	348
Samsul Ariffin Abdul Karim, Balbir Singh Mahinder Singh, Radzuan Razali and Noorhana Yahya	
Enhancement Modeling Method of Human Gait	353
Ahmad Puad Ismail and Nooritawati Md Tahir	
Comparisons on Thermal Effects of 1.8GHz Electromagnetic Field Exposure on Swiss Albino Mice	358
Normasni Ad Fauzi, Rusnani Ariffin, Norhayati Mohamad Noor and Iza Sazanita Isa	
Real-time Application of Self-tuning PID in Electro-hydraulic Actuator	364
Norlela Ishak, Mazidah Tajjudin, Ramli Adnan, Hashimah Ismail and Yahaya Md Sam	
Simulation Studies of Methyl Tert-butyl Ether Production in Reactive Distillation	369
S. Sudibyo, M. N. Murat and N. Aziz	
Robust Control Design for Spacecraft Attitude Systems with Unknown Dead Zone	375
Najah F. Jasim and Ibrahim F. Jasim	

Modelling of a Level Drum Process Control Training System	381
Belinda Chong Chiew Meng, Dayang Suhaida Awang Damit, Samihah Abdullah, Normasni Ad Fauzi and Iza Sazanita Isa	
Time-Delayed Feedback Control of Chaotic T--S Fuzzy Systems	387
Min Kook Song, Jin Bae Park and Young Hoon Joo	
Modeling and Control of Photovoltaic Panels Base Perturbation and Observation MPPT Method	393
Omid Palizban and Saad Mekhilef	
Power Optimization and Static Performance Investigation of an Island-mode Doubly-Fed Induction Generator (DFIG)	399
Omid Palizban and Saad Mekhilef	
Active and Reactive Power Control for a Hybrid System with Photovoltaic Panel, Wind Turbine, Fuel Cells, Electrolyzer and Super Capacitor in Off-grid Mode	404
Omid Palizban, M. A. Rezaei and Saad Mekhilef	
Model Based Control of a Linear Stage Using a Contactless Optical Sensor System	409
Tran Trung Nguyen, Arvid Amthor, Stephan Zschaeck and Steven Lambeck	
Towards Automatic Column-based Data Object Clustering for Multilingual Databases	415
Wael M. S. Yafooz, Siti Z.Z. Abidin and Nasiroh Omar	
2.46 GHz Reduce Size Helical Antenna Simulation	421
Samihah Abdullah, Dayang Suhaida Awang Damit, Belinda Chong Chiew Meng and Rohaiza Baharuddin	
Perceived Security, Privacy, and Trust Concerns Within Social Networking Sites: The Role of Information Sharing and Relationships Development in the Malaysian Higher Education Institutions' Marketing	426
Nour Mohammed Almadhoun, P. Dhanapal Durai Dominic and Lai Fong Woon	
Compact Single Hidden Layer Feedforward Network for Mycobacterium Tuberculosis Detection	432
M. K. Osman, Mohd Halim Mohd Noor, M. Y. Mashor and H. Jaafar	
Extending a Petri Net Simulator as a Real-Time Control Simulator	437
Reggie Davidrajuh	
A Framework for Resolving Task Overload Problems Using Intelligent Software Agents	443
Al-Mutazbellah Khamees Itaiwi, Mohd Sharifuddin Ahmad, Nurzeatul Hamimah Abdul Hamid, Nur Huda Jaafar and Moamin A. Mahmoud	
Auditory Wavelet Packet Filters for Multi-style Classification of Speech Under Stress	448
Nurul Aida Amira Johari, M. Hariharan, Sazali Yaacob and Vikneswaran Vijean	
Multiple Intersections Traffic Signal Timing Optimization with Genetic Algorithm	454
Y. K. Chin, K. C. Yong, N. Bolong, S. S. Yang and K.T. K. Teo	
Overlapping Vehicle Tracking Via Adaptive Particle Filter with Multiple Cues	460
W. L. Khong, W.Y. Kow, Y. K. Chin, I. Saad and K.T. K. Teo	

Endoscopic Image Compression Based on Double Density Discrete Wavelet Transform and SPIHT Coding	466
Varun P. Gopi and P. Palanisamy	
Malaysian English Accents Identification Using LPC and Formant Analysis	472
Yusnita M. A., Paulraj M. P., Sazali Yaacob, Shahriman Abu Bakar and A. Saidatul	
Analysis of EEG Signals During Relaxation and Mental Stress Condition Using AR Modeling Techniques	477
A. Saidatul, Paulraj M. P., Sazali Yaacob and Yusnita M. A.	
Challenges and Issues on Online News Management	482
Wael M. S. Yafooz, Siti Z. Z. Abidin and Nasiroh Omar	
Enhanced Performance of New Family Modified Double Weight Codes Spectral Amplitude Coding Optical CDMA System Network	488
A. R Arief, S. A Aljunid, M. S Anuar, M. N Junita, R. B. Ahmad and F. Ghani	
Development of Output Feedback Sliding Mode Control for Nonlinear System with Disturbance	495
Mohamad Riduan Md Nawawi, Chong Shin Horng, Mohd Ruzaini Hashim and Ainain Nur Hanaffi	
Chaotic Trajectory Tracking of an Electro-Hydraulic Actuator System Using Discrete Sliding Mode Control	500
R. Ghazali, R. Ngadengon, Y. M. Sam, M. F. Rahmat, Zulfatman and N. Hamzah	
An Retentive Backtracking Bit Competed Anti-Collision Algorithm for RFID Systems	507
Tzay-Farn Shih and Pao-Kai Chuang	
Humanoid Robot NAO: Control and Motion Exploration	511
Syamimi Shamsuddin, Luthffi Idzhar Ismail, Hanafiah Yussof, Nur Ismarrubie Zahari, Saiful Bahari, Hafizan Hashim and Ahmed Jaffar	
Face Detection Technique of Humanoid Robot NAO for Application in Robotic Assistive Therapy	517
Luthffi Ismail, Syamimi Shamsuddin, Hanafiah Yussof, Hafizan Hashim, Saiful Bahari, Ahmed Jaafar and Ismarrubie Zahari	
Design of Fractional Order PI Controller for Liquid Level Control of Spherical Tank Modeled as Fractional Order System	522
K. Sundaravadivu, V. Jeyakumar and K. Saravanan	
Development of a Modular General Purpose Controller Board for Biologically Inspired Robot	526
M. Amudha, M. K. A. Ahamed Khan, I. Elamvazuthi, Aliah Abd Jamil, P. Vasant and T. Ganesan	
Classification of Bundle Branch Blocks Using Multilayered Perceptron Network	531
M. S. A. Megat Ali, A. H. Jahidin, A. N. Norali and M. H. Mat Som	
Development of Helical Antenna Prototype for Wireless Power Transmission	536
M. F. Salbani, M. A. Abdul Halim, A. H. Jahidin and M. S. A. Megat Ali	

Optimal Control of Nonlinear Inverted Pendulum Dynamical System with Disturbance Input Using PID Controller & LQR Lal Bahadur Prasad, Barjeet Tyagi and Hari Om Gupta	540
1.8 GHz Radio frequency Signal radiation Effects on Human Health Azizah Ahmad, Rusnani Ariffin, Norhayati Mohd Noor and Meor Adzmey Sagiruddin	546
Biological Effects of WiFi Electromagnetic Radiation Nurul Huda Ishak, Rusnani Ariffin, Azuwa Ali, Meor Adzmey Sagiruddin and Faizal Mohamad Twon Tawi	551
Improvement of MRI Brain Classification using Principal Component Analysis Noramalina Abdullah, Lee Wee Chuen, Umi Kalthum Ngah and Khairul Azman Ahmad	557
Analysis of Cantilever Characteristics in Designing Electromagnetic Generator Zuraini Dahari, Wong Chin-Chye, Othman Sidek and Muhammad Azman Miskam	562
A Speed Sensorless Field Oriented Control of Parallel- Connected Dual PMSM Ahmad Asri, Dahaman Ishak, Shahid Iqbal and Mohamad Kamarol	567
Solar Radiation Data Analysis by using Daubechies Wavelets Samsul Ariffin Abdul Karim, Balbir Singh Mahinder Singh, Radzuan Razali and Noorhana Yahya	571
Modeling and Simulation of Dual-power PV-grid Energy System utilizing Multilevel Inverter I. R. Ibrahim, Z. Hussain and A. M. Omar	575
Optimization for the Machinery and Performance of Thermal Energy Storage System in Engineering Complex, UiTM Shah Alam Abdul Hafiz Kassim and Zainazlan Md Zain	580
The Use of Single Ortho-rectified High Resolution Satellite Imagery for TopoMap Revision Sharifah Norashikin Bohari, Norshafinaz Mohd Disa, Zulkiflee Abd. Latif and Abd. Manan Samad	587
Evaluating the Relationship between Scanning Resolution of Laser Scanner with the Accuracy of the 3D Model Constructed Rosmadi Ghazali, Ahmad Eziwan Enche Sukri, Abdul Rahman Abd Latif, Abd Rauf Abd Rasam, Zulkiflee Abd Latif and Abd Manan Samad	590
Dynamic Modeling and Simulation of Free Swinging Shank for Hemiplegics R. Boudville, Z. Hussain, M. N. Taib and S. Z. Yahaya	596
Author Index	599