2021 IEEE 17th International Colloquium on Signal Processing & Its Applications (CSPA 2021)

Langkawi, Malaysia 5 – 6 March 2021



IEEE Catalog Number: C. ISBN: 97

CFP2179G-POD 978-1-6654-3059-3

Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP2179G-POD

 ISBN (Print-On-Demand):
 978-1-6654-3059-3

 ISBN (Online):
 978-1-6654-1484-5

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



Table of Contents

	Page
Organizing Committee	iii
	:
Reviewers	iv
Table of Contents	vi
Paper Title & Authors	
Medical Imaging and Analysis of Dense Breast Tissue: A Case Study Mohammed E. Hameed Rasheed, Mansour Youseffi, Muhammad Mahadi Abdul Jamil and Nur Adilah Abd Rahman	1
Investigation of Combined Effect of Pulse Electric Field and Transforming Growth Factor Beta-3 (TGF-B3) on Proliferation and Spreading of the Human Colon Adenocarcinoma HT29 Cell Line Hassan Buhari Mamman, Muhammad Mahadi Abdul Jamil, Nur Adilah Abd Rahman, Mansour Youseffi, Naseem Ghazali and Farideh Javid	6
An Innovative Anomaly Driving Detection Strategy for Adaptive FCW of CNN Approach Raja Mariatul Qibtiah, Zalhan Mohd Zin, Mohd Fadzil Abu Hassan and Siti Salwa Md Noor	12
Sizing Optimization of Whale Optimization Algorithm for Hybrid Stand-Alone Photovoltaic System Mohamad Faridzal Mohamad Bakri, Zulkifli Othman, Shahril Irwan Sulaiman and Noor Hasliza Abdul Rahman	18
Enhanced Ensemble Models for Predictive Modeling: A Conceptual Framework Janson Luke Ong Wai Kit, Vijanth Sagayan Asirvadam and Mohd. Fadzil B. Hassan	24
Performance of Classification Models in Japanese Quail Egg Sexing Jesusimo L. Dioses Jr., Ruji P. Medina, Arnel C. Fajardo and Alexander A. Hernandez	29
Digital TV Spectrum Survey for the Scope of Energy Scavenging in Jasin, Melaka Win Adiyansyah Indra, Abdullah Ihsan Imam Jurjani, Nurulhalim Hassim, Safarudin Gazali Herawan, Nur Syahirah Zamzam and Fikarwin Zuska	35
Technical and Organizational Facilitating Conditions – The Antecedent Factors and Impact on the Intention to Use ERP System in Libyan Universities Slem Emhmed, Omar Ismael Al-Sanjary, Adam Amril Jaharadak, Saeed Hameed Aldulaimi and Mohammed Hazim Alkawaz	41
Wireless Health Status Monitoring of Solar Lamp Post using Radio Frequency Jennifer C. Dela Cruz, Matthew C. Cabrera, Christian Aldin V. Manahan and Marvin Joseph T. Palmiano	47
Solar Lamp Post Health Monitoring Using Integrated Sensors and Wireless Network Jennifer C. Dela Cruz, Glenn V. Magwili, Kyle C. Catimbang, Terrence Bosser S. Serrano, Paul Christian L. Reyes	53

Flood Risk Visualization and Prediction Information System: Case of City Manila, Philippines Lory Jean L. Canillo and Alexander A. Hernandez	59
Early Detection of Single-Phase Induction Motor Failure through the use of Accelerometer and Temperature Sensor via Arduino Erick V. Alviento, Jeferson B. Cabais, Juan Miguel M. Fajardo, Ramon G. Garcia, Alejandro H. Ballado Jr.	64
Determination of the Separability Criterion of the Singular Spectrum Analysis Based Sinusoidal Components Extraction Technique Shuvashis Banerjee and Md. Mahbub Hasan	70
Determination of Rolling Returns from the Performance Chart of Mutual Funds Jia-Hao Chew and Choon-Boon Ng	76
Reinforcement Learning for Robotic Applications with Vision Feedback Hatem Fahd Al-Selwi, Azlan Abd. Aziz, Fazly Salleh Abas and Zakarya Zyada	81
Artificial Intelligent Parameter based PSO for Maximum Power Point Tracking of PV Systems under PSC Malarvili S., Mageshwari S. and Vinothkumar	86
Image Copy-Move Forgery Detection Algorithms Based on Spatial Feature Domain Ismail Taha Ahmed, Baraa Tareq Hammad and Norziana Jamil	92
Mitigation of Harmonic Distortion for Grid Connected PV Solar Using MPPT Controller Mohammad Ali Tofigh, Nurul Fadzilawati Zainuddin and Ahmad Fadillah Hasbi	97
Optimized Machine Learning Algorithm using Hybrid Proximal Method with Spectral Gradient Techniques Cherng Liin Yong, Ban Hoe Kwan, Danny Wee-Kiat Ng and Hong Seng Sim	10
BDNF (Brain-Derived Neurotrophic Factor) Mediated Presynaptic Neuronal Signal from the Inhibitory Setting of Cortical Pyramidal Neurons Recorded from Brain Slices Tahamina Begum, Hussain Saad Alzahrani, Faruque Reza, Nazlahshaniza Shafin, Mohd Harizal Senik @ Nawi and Yumiko Yoshimura	107
A Comparison Between Local and Global Models Among Different Near Infrared Spectroscopy Instruments for Corn Oils Prediction Xien Yin Yap and Kim Seng Chia	11
Optimal Frequency Characterization of Mango Pulp Weevil Mating Activity using Naïve Bayes Classifier Algorithm Ivane Ann P. Banlawe, Jennifer C. Dela Cruz, John Christian P. Gaspar and Edrian James I. Gutierrez	110
Automatic Test Case Generation for Prime Field Elliptic Curve Cryptographic Circuits Krishn Kumar Gupt, Meghana Kshirsagar, Joseph P. Sullivan and Conor Ryan	12
Development of IoT Based Logistic Vehicle Maintenance System S. Mohammad, M. A. A Masuri, S. Salim, M. R. Abdul Razak	127
Child Respiration States Determination by Using IR-UWB Radar Sensor-Based Human Motion Detection Method Terence Jerome Daim and Razak Mohd Ali Lee	133
Mathematical Modelling and PID Controller Design for Two DOF Gimbal System Mohd Hafiez Ahmad, Khairuddin Osman, Mohd Fais Mohd Zakeri and Samsudin S. I.	138

Intervention Support Program for Students at Risk of Dropping Out Using Fuzzy Logic-Based Prescriptive Analytics Cindy G. De Jesus and Mark Kristian C. Ledda	144
Optimum Illumination for Real-time Wiper Arm Defect Detection Kai Yuen Cheah, Sze Liu Gan, Lee Choo Tay and Weng Kin Lai	150
Non-Invasive Blood Pressure and Heart Rate Sensing Using Photoplethysmogram Sensor Nur Intan Fathehah Mohd Lahil, Farrah Wong, Ali Chekima, Sariah Abang, Normah Awang Besar, Aroland Jilui Kiring, Yew Hoe Tung, Chung Seng Kheau and Jamal Ahmad Dargham	156
Automated Quantification and Simulation of Hippocampal Images Treated with Kainic Acid from Rat Brain Slices Hussain Saad Alzahrani, Faruque Reza, Tahamina Begum, Aidy Irman Yajid, Nazlahshaniza Shafin and Mohd Harizal Senik @ Nawi	161
Critical Infrastructure Monitoring System Vít Novotný, Petr Sysel, Jiří Přinosil, Jiří Mekyska, Karel Slavíček and Ivo Lattenberg	165
Evaluating the Masked and Unmasked Face with LeNet Algorithm Muhammad Haziq Rusli, Nilam Nur Amir Sjarif, Siti Sophiayati Yuhaniz, Steven Kok and Muhammad Solihin Kadir	171
Nonlinear Modelling for Time-Varying Water Temperature PID Control Muhamad Danial Mohammad Shah, Nurul Nadia Mohammad and Najidah Hambali	177
Fuzzy PD and Fuzzy PD+I Controllers Design for Attitude Control of Innovative Nano-Satellite Hani Hazza Ali Ahmed, Mashor M. Y. and Mohammed Chessab Mahdi	183
Author's Index	187