

2021 11th IEEE International Conference on Control System, Computing and Engineering (ICCSCE 2021)

**Penang, Malaysia
27 – 28 August 2021**



**IEEE Catalog Number: CFP2114R-POD
ISBN: 978-1-6654-3080-7**

**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:	CFP2114R-POD
ISBN (Print-On-Demand):	978-1-6654-3080-7
ISBN (Online):	978-1-6654-1281-0

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

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

	Page
<i>Organizing Committee</i>	iii
<i>Technical Reviewers</i>	iv
<i>Table of Contents</i>	v
<i>Paper Title & Authors</i>	
Robust Speed Control Methodology for Variable Speed Wind Turbines Ammar Al-Jodah and Marwah Alwan	1
Early Flow Table Eviction Impact on Delay and Throughput in Software-Defined Networks Usman Humayun, Mosab Hamdan and M. N. Marsono	7
Fundamental Study of Cannabidiol Effect on MCF-7 with Low Voltage Pulse Electric Field Nur Adilah Abd Rahman, Muhammad Mahadi Abdul Jamil, Mohamad Nazib Adon, Ahmad Basri Zainal, Farideh Javid and Mansour Youseffi	13
A Comparative Investigation of Eye Fixation-based 4-Class Emotion Recognition in Virtual Reality Using Machine Learning Lim Jia Zheng, James Mountstephens and Jason Teo	19
Comparative Study of Low-Cost Tools to Create Effective Educational Infographics Content Mohd Shahiran Salim, Mohd Nizam Saad and Badruddin Mohamad Nor	23
Design and Implementation of Needle Steering System Abdel-Salam Shaaban, Ahmed S. Ali, R. Mostafa and Fathi E. Abd El-Samie	29
Transient Stability Improvement of Power System using Power System Stabilizer Integrated with Excitation System Ahmad Adel Alsakati, Chockalingam Aravind Vaithilingam, Jamal Alnasseir and Arthanari Jagadeeshwaran	34
Content Based-Image Retrieval Using Support Vector Machine Syazwani Izzati Shahrom, Norlyda Mohamed, Siti Fatimah Kamarudin, Wan Nur Auni Wan Ghazali and Aminah Abdul Malek	40
PI Control of Biomass Concentration for a Continuous-Discrete Bioreactor R. Ramjug-Ballgobin, K. Busawon, R. T. F. Ah King and H. C. S. Rughooputh	46
Hover to Forward Flight Transition – Longitudinal Motion Feasibility Study of a Converted Long Endurance Fixed-Wing VTOL UAV Zairil Zaludin, Chen Chia and Ermira Abdullah	50
VLSI Design Course with Commercial EDA Tools to Meet Industry Demand – From Logic Synthesis to Physical Design Siu Hong Loh, Ing Ming Tan and Jia Jia Sim	55

Mass Detection in Digital Mammogram Image using Convolutional Neural Network (CNN)	61
Siti Noraini Sulaiman, Nur Athirah Hassan, Iza Sazanita Isa, Mohd Firdaus Abdullah and Zainal Hisham Che Soh and Yessi Jusman	
Economic Dispatch of Micro-grid Considering Electric Vehicles	66
Sim Wai Sheng, Yip Sook Yee, Wong Jee Keen Raymond and Kuan Tze Mei	
PI Observer-based Control for Biomass Regulation under Measurement Delays	71
R. Ramjug-Ballobin, K. Busawon, R. T. F. Ah King and H. C. S. Rughooputh	
Arabic Vehicle Licence Plate Recognition Using Deep Learning Methods: Review	75
Gamal Alkawsi, Yahia Baashar, Ammar Ahmed Alkahtani, Tiong Sieh Kiong, Dhuha Habeeb and Ammar Aljubari	
IoT-Based Flash Flood Detection and Alert Using TensorFlow	80
Ameer Abd Rashid, Muhammad Azizi Mohd Ariffin and Zolidah Kasiran	
Design and Implementation of Signal Filtering Techniques on Real-time Pressure Process Plant	86
P. Arun Mozhi Devan, Fawnizu Azmadi Hussin, Rosdiazli Ibrahim and Kishore Bingi	
Lung Area Segmentation on Chest X-Ray Based on Texture Image Feature	92
Mohd Nizam Saad, Mohamad Farhan Mohamad Mohsin, Hamzaini Abdul Hamid and Zurina Muda	
Second Order Sliding Mode Controller for Altitude and Yaw Control of Quadcopter	97
Tsong Heng Chiew, Hao-Ern Lee, Yoon Ket Lee, Kai Ming Chang, Jia Jan Ong and Kok Seng Eu	
LifeDoc: Availability and Monitoring System of Online Medical Consultation	103
Jovan Carlo S. Caballero, Carl Benedick D. Ching, Sean Patrick S. Co, Hazel O. Noble and Arne B. Barcelo	
Design and Development of GMapping based SLAM Algorithm in Virtual Agricultural Environment	109
MD Tanvir Ahmed Ratul, Mohd Saiful Azimi Mahmud, Mohamad Shukri Zainal Abidin and Razman Ayop	
Anti-Drone System Based Different Technologies: Architecture, Threats and Challenges	114
Yaseen N. Jurn, Sawsen A. Mahmood and Jaafar A. Aldhaibani	
Contextual Anomaly Detection Based Video Surveillance System	120
Sawsen Abdulhadi Mahmood, Azal Monshed Abid and Wedad Abdul Khuder Naser	
A Real-Time Speed Limit Sign Recognition System for Autonomous Vehicle Using SSD Algorithm	126
Nur Nabilah Abu Mangshor, Nor Syahirah Saharuddin, Shafaf Ibrahim, Ahmad Firdaus Ahmad Fadzil and Khyrina Airin Fariza Abu Samah	
Enhancing Precision on Pneumatic Actuator Positioning using Cascaded Finite-time Prescribed Performance Control	131
Mohd Iskandar Putra Azahar and Addie Irawan	
Classification System for Leukemia Cell Images based on Hu Moment Invariants and Support Vector Machines	137
Yessi Jusman, Slamet Riyadi, Amir Faisal, Siti Nurul Aqmariah Mohd Kanafiah, Zeehaida Mohamed and Rosline Hassan	

Performance Evaluation of Newton Euler & Quaternion Mathematics-based Dynamic Models for an Underactuated Quadrotor UAV	142
Ghulam E. Mustafa Abro, Saiful Azrin B. M. Zulkifli and Vijanth Sagayan Asirvadam	
Analysis of Factors Affecting Anti-Collision Performance of RFID Based Asset Tracking System in WSN Platform	148
Amirul Badri Arjuna, Shabinar Abdul Hamid, Samihah Abdullah, Zuraida Muhammad, Solahuddin Yusuf Fadhlullah and Nor Adni Mat Leh	
Characterization of Backing Layer Piezoelectric Ultrasonic Transducers for Underwater Communication	153
Muhammad Syafeeq Harzick Mohd Subki, K. A. Ahmad, M. K. Osman, R. Boudville, S. Z. Yahya, M. F. A. Rahman and Z. Hussain	
Underwater Animal Detection Using YOLOV4	158
Mohamed Syazwan Asyraf Rosli, Iza Sazanita Isa, Mohd Ikmal Fitri Maruzuki, Siti Noraini Sulaiman and Ibrahim Ahmad	
Deep Learning Approach for Transmission Line Fault Classification	164
Mohamad Arif Mohamad Nasrin, Abdul Malek Saidina Omar, Siti Solehah Md Ramli, Abdul Rahim Ahmad, Nur Fadhilah Jamaludin and Muhammad Khusairi Osman	
High-level Features in Deeper Deep Learning Layers for Breast Cancer Classification	170
Noor Fadzilah Razali, Iza Sazanita Isa, Siti Noraini Sulaiman, Noor Khairiah A. Karim and Muhammad Khusairi Osman	
Road Image Segmentation using Unmanned Aerial Vehicle Images and DeepLab V3+ Semantic Segmentation Model	176
Mat Nizam Mahmud, Muhammad Khusairi Osman, Ahmad Puad Ismail, Fadzil Ahmad, Khairul Azman Ahmad and Anas Ibrahim	
Fall Detection System Using Wearable Sensors with Automated Notification	182
Aini Hafizah Mohd Saod, Aisamuddin Aizat Mustafa, Zainal Hisham Che Soh, Siti Azura Ramlan and Nur Athiqah Harron	
Classification of Handwriting Impairment Using CNN for Potential Dyslexia Symptom	188
Noor Syaheena Long Seman, Iza Sazanita Isa, Siti Azura Ramlan, Wang Li-Chih and Mohd Ikmal Fitri Maruzuki	
Development of CNN Transfer Learning for Dyslexia Handwriting Recognition	194
Mohamed Syazwan Asyraf Rosli, Iza Sazanita Isa, Siti Azura Ramlan, Siti Noraini Sulaiman, Mohd Ikmal Fitri Maruzuki	
Performance Evaluation of EHA System in the Presence of Mass and Pressure Variation using MOPSO-SMC	200
Chai Mau Shern, Rozaimi Ghazali, Chong Shin Horng, Chong Chee Soon, Yahaya Md Sam and Zulfatman Has	
The Effects of Mass Variation on Closed-loop EHA System under High Leakage Flow Condition	206
Muhamad Fadli Ghani, Rozaimi Ghazali, Hazriq Izzuan Jaafar, Chong Chee Soon, Chai Mau Shern and Zulfatman Has	
Control of Electric Wheelchair via Eye Gestures for People with Neurological Disorder	210
A. R. Adnan, S. Z. Yahaya and Z. Hussain	
Implementation of a Microcontroller-based Home Security Locking System	216
Muhammad Azamuddin Zamri, Mohd Uzir Kamaluddin and Norliza Zaini	
Human Body Temperature Detection based on Thermal Imaging and Screening using YOLO Person Detection	222
Muhammad Faizul Azwan Mushahar and Norliza Zaini	

Development of an LSTM-based Model for Energy Consumption Prediction with Data Pre-analysis	228
Muhammad Afif Nubhan Mohd Asri, Norliza Zaini and Mohd Fuad Abdul Latip	
Flexible Biphasic Functional Electrical Stimulator for Children with Cerebral Palsy	234
Zakaria Hussain, Harith Firdaus Mustapha, Emilia Noorsal, Khairul Azman Ahmad and Kriangkrai Sooksood	
System Identification Makes Sense of Complex Measurements	240
Mohd Nasir Taib and Nurlaila Ismail	
Author’s Index	246