

2022 International Conference on Future Trends in Smart Communities (ICFTSC 2022)

**Kuching, Sarawak, Malaysia
1 – 2 December 2022**



**IEEE Catalog Number: CFP22DA9-POD
ISBN: 979-8-3503-3455-5**

**Copyright © 2022 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:	CFP22DA9-POD
ISBN (Print-On-Demand):	979-8-3503-3455-5
ISBN (Online):	979-8-3503-3454-8

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

Adopting Electrical Remote Operation and Intelligent-Based System at Offshore Installation.....	1
<i>M. Faizal Hamdan, W. Umikalthum, Azam Syah Monzaid, W. Sadik Hakim</i>	
Anomaly Prediction and Remaining Useful Life for Alternator Health Monitoring System	6
<i>Lin Yong Wong, Norashikin Yahya, M. Nazim Hamid, Suhaila Badarol Hisham</i>	
Comparative Analysis of Different Parameters Used for Optimization in the Process of Speaker and Speech Recognition Using Deep Neural Network	12
<i>Sureshkumar Natarajan, Syed Abdul Rahman Al-Haddad, Faisul Arif Ahmad, Mohd Khair Hassan, Raja Kamil, Syaril Azrad, Mohammed Nawfal Yahya, June Francis Macleans, Pratiksha Prashant Salvekar</i>	
Concept Drift Scenarios in Electrical Load Forecasting with Different Generation Modalities	18
<i>Abdul Azeem, Idris Ismail, Syed Muslim Jameel, Fakhizan Romlie, Kamaluddeen Usman Danyaro</i>	
Design and Development of an Estimate Controller for a Fusion Tank System.....	23
<i>A. Sanjeevi Gandhi, K. Porkumaran, C. Jeeva, R. Kothai, Ramani Kannan</i>	
Design and Development of PV Powered Intergraded DC - DC Converter Fed Multilevel Inverter for Standalone Application	27
<i>K. Prathibanandhi, B. Meenakshi, T. Porselvi, R. Azhagumurugan, V. Chithra, V. Malini</i>	
Butler Matrix Design and Simulation for 5G Applications	33
<i>R. Sunitha, S. Vijayanand, Ramani Kannan, S. Usha, L. Rangaiah, P. Sanjay</i>	
Design of an Efficient LED Driver Using Non-Ideal Boost Converter for Lighting Applications.....	39
<i>K. Thirupura Sundari, K. Renganathan, R. Azhagumurugan, Ramani Kannan, A. Jeyadharshini, P. Mahalakshmi</i>	
Design of Miniaturized S-Band High Isolation Strip-Line Circulator for 5G Application.....	45
<i>Sokha Khim, Sovuthy Cheab, Socheatra Soeung, Guan Shen Ng, Rothna Pec</i>	
Detection of Alzheimer’s Disease Using Dynamic Functional Connectivity Patterns in Resting- State fMRI	49
<i>Mohammed Isam Al-Hiyali, Norashikin Yahya, Ibrahima Faye, Alishba Sadiq, Mohamad Naufal Mohamad Saad</i>	
Effect of Thickness of the Poly(vinyl Alcohol) Passivation Layer on Ambipolar Characteristics of Graphene Field-Effect Transistor	55
<i>Nadia Norhakim, Huzain Fahmi Hawari, Zainal Arif Burhanudin</i>	
Elliptic Curve Cryptography for the Security of Insecure Internet of Things	59
<i>Naqash Azeem Khan, Azlan Awang</i>	
Emotion Based Chatbot Using Deep Learning.....	65
<i>Nurlaila Rosli, Alexander Chai Min Jie, Lo Woon Chze, Nelson Chai Zhen Faan, Yek Nai Liang</i>	
Energy Management Algorithm in Wireless Sensor Network for Pipeline Monitoring	70
<i>Lukman S. Ayinla, Azrina A. Aziz, Micheal Drieberg, Austin C. O. Azubogu, Temitope I. Amosa</i>	

Enhancements to PERCLOS Algorithm for Determining Eye Closures	76
<i>Muhammad Ammar Zulkarnanie, Kiranraj Siva Shanmugam, Nasreen Badruddin, Naufal M. Saad</i>	
Explainable Artificial Intelligence Applied to Deep Reinforcement Learning Controllers for Photovoltaic Maximum Power Point Tracking.....	82
<i>Pei Seng Tan, Tong Boon Tang, Eric Tatt Wei Ho</i>	
Explainable Deep Learning Model for Cardiac Arrhythmia Classification.....	87
<i>Talal A. A. Abdullah, Mohd Soperi Bin Mohd Zahid, Tong Boon Tang, Waleed Ali, Maged Nasser</i>	
Extended Lifetime of IoT Applications Using Energy Saving Schemes	93
<i>Adam Khalid, Usha Sakthivel, Senthilkumaran Thangamuthu, Micheal Drieberg, Patrick Sebastian, Azrina Abd Aziz, Lo Hai Hiung</i>	
Forecasting of Wind Turbines Generated Power with Missing Input Variables	98
<i>M. Sunder, R. Abishek, Monalisa Maiti, Kishore Bingi, P. Arun Mozhi Devan, Maher Assaad</i>	
General Framework of Geometric Simplification for Mitigating Cybersickness	104
<i>Ruding Lou, Frédéric Mérienne, Dominique Bechmann</i>	
Hemodynamic Response Asymmetry of the Prefrontal Cortex During a Cognitive Load Task.....	109
<i>Maged S. Al-Quraishi, Naufal M. Saad, Christophe Guillet, Frederic Merienne</i>	
High Rejection Highpass Filter for Wideband Applications Using Suspended Stripline Technology.....	114
<i>Socheatra Soeung, See Wei Yang, Sovuthy Cheab, Guan Shen Ng</i>	
Impact of New Enhanced Dispatch Arrangement (NEDA) Mechanism on the Cost Efficiency of Generation of Malaysian Representative System	118
<i>Previnsha Naidu Poornachendran, Renuga Verayiah</i>	
Improved Whale Optimization Algorithm for Optimal Network Coverage in Industrial Wireless Sensor Networks.....	124
<i>P. Arun Mozhi Devan, Rosdiazli Ibrahim, Madiyah Binti Omar, Kishore Bingi, Hakim Abdulrab, Fawnizu Azmadi Hussin</i>	
Investigating the Impact of Illumination and Viewpoint Variations on Transformer-Based Person Re-Identification.....	130
<i>Temitope Ibrahim Amosa, Patrick Sebastian, Lila Iznita Izhar, Oladimeji Ibrahim</i>	
Low Frequency Underwater Acoustic Modelling Based on Deep Learning	136
<i>R. Azhagumurugan, C. S. Sai Ganesh, K. Porkumaran, S. R. Y. Aouthithiye Barathwaj, C. Nayanatara, N. C. Haariharan</i>	
mm-Wave RSS Evaluation for Distance Estimation in Urban Environments	141
<i>Yaser A. Bakhuraisa, Azlan B. A. Aziz, Tan K. Geok, Norazhar B. Abu Bakar, Saifulnizan B. Jamian</i>	
Multi-Sensor IF Estimation Based on Time-Frequency and Spatial Filtering.....	147
<i>Nabeel Ali Khan, Sadiq Ali, Ateeq Ur Rehman</i>	
Potato Crop Health Assessment Using Multispectral Image Analysis	151
<i>Amelia Sarah Binti Abdul Rahman, Patrick Sebastian, Lila Iznita Izhar</i>	

Novel Feature Engineering for Heart Disease Risk Prediction Using Optimized Machine Learning	158
<i>Vishnu Vardhana Reddy Karna, Sivajothi Paramasivam, Irraivan Elamvazuthi, Hui Na Chua, Azrina Abd Aziz, Pranavanand Satyamurthy</i>	
Optimal Node Placement and Congestion Reduction in an Industrial Wireless Mesh Network Using HHO Algorithm	164
<i>Hakim Abdulrab, Fawnizu Azmadi Hussin, Azlan Awang, Idris Ismail, P. Arun Mohzi Devan, Hussein Shutari</i>	
Performance Evaluation of an Asynchronous MAC Protocol in Wireless Sensor Network.....	170
<i>Chung Yee Haw, Azlan Awang, Fawnizu Azmadi Hussin</i>	
Photovoltaics Performance Evaluation Using IoT Technology	176
<i>Melvinder S. A.-L. B. Singh, Nursyarizal Mohd Nor, Taib Bin Ibrahim, M. Zuraimi Rahman</i>	
Mathematical Modelling & Design Analysis of Pipeline Vibration-Based Piezoelectric Energy Harvester	182
<i>W. N. Mohd Fairuz, M. R. Ahmad, I. Mohd Nawati</i>	
Real Time Electrical Transient Analyzer Program (ETAP RT) Improvement for Gas Processing & Utilities (GPU) Plant, PETRONAS Gas Berhad	188
<i>Nur Mohd Fadzli B. Nordzi, I. Azwanizam B. Che A. Rahman, I. M. Hamdan Kamarul Baharaini, I. M. Rahmat B. Mat Tahir</i>	
Sensitivity Analysis of the Effective Reproduction Number in a Sarawak Rabies Epidemic Model	194
<i>Nur Asheila Abdul Taib, Jane Labadin</i>	
THD Analysis of Output Voltage and Current for IGBT Based Cyclo-Inverter Circuit.....	199
<i>Md. Mahmudul Hasan, Md. Abdul Malek, Ramani Kannan, Muhammad Abdul Goffar Khan, Karantharaj Porkumaran, Hadi Nabipour Afrouzi</i>	
Intelligent Offloading Decision and Resource Allocation for Mobile Edge Computing	204
<i>Omar Baslaim, Azlan Awang</i>	
Investigation of Full-Order State Output Feedback Controller on DC-DC Converter Rapid Load Current Change.....	210
<i>Nor Zaihar Yahaya, Oladimeji Ibrahim, Temitope Ibrahim Amosa, Nordin Saad, Sheikh Tanzim Meraj</i>	
Development of Gas Flow Characteristic Prediction for Industrial Flow Meter Using Long Short-Term Memory (LSTM).....	214
<i>M. Faizal Mustafa, Ahmad Muizuddin Talib, Rahimi Zaman Jusoh A. Rashid, Idris Ismail, Azlan Awang, Mohamad Naufal Mohamad Saad, M. Safwan Zahari</i>	
Hand Gesture-Based Control of Autonomous UAV for Mobile Disinfectant Dispenser.....	218
<i>Khairil Danish B. Khairil Anwar, Ghulam E. Mustafa Abro, Saiful Azrin B. M. Zulkifli</i>	
Variance Analysis on Functional Connectivity of Resting-State fMRI Signals in Alzheimer's Disease Patients.....	223
<i>Alishba Sadiq, Norashikin Yahya, Tong Boon Tang, Hilwati Hashim, Mohamad Naufal Mohamad Saad</i>	
Flexible IoT Based DSM-DG Strategy Adopted for Benefit Maximization in a Power System Network.....	229
<i>C. Nayanatara, R. Azhagumurugan, P. Sharmila, Ramani Kannan, P. Shanmugapriya, M. Suresh Kumar</i>	

Disassociation of Visual-Proprioception Feedback to Enhance Endotracheal Intubation	233
<i>Mahdiyeh Sadat Moosavi, Jacob Williams, Christophe Guillet, Frédéric Merienne, J. Cecil, Michael Pickett</i>	
The Influence of Audio Sensory Input on the Anxiety Level of the VR Users.....	237
<i>Mahdiyeh Sadat Moosavi, Marcus Yung Chong, Ainul Khairiyah Mohd Nazri, Frédéric Merienne, Christophe Guillet, Dayang Rohaya Awang Rambli, Suziah Sulaiman</i>	
Ambipolar Characteristics of Sludge-Extracted Asphaltene-Based Organic Field-Effect Transistor	243
<i>Nur Khairin Nadhirah Saifudin, Sundarajoo Thulasiraman, Zayyan Rafi Kesuma, Nadia Norhakim, Zainal Arif Burhanudin</i>	
Measuring Energy Consumption of Insertion Sort to Establish Energy Consumption Dependency on Execution Time and Memory Allocation.....	247
<i>Umar Mahmud, Shariq Hussain</i>	

Author Index