

2022 3rd International Conference on Electrical Engineering and Informatics (ICon EEI 2022)

**Virtual Conference
19-20 October 2022**



**IEEE Catalog Number: CFP22RPC-POD
ISBN: 978-1-6654-5435-3**

**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:	CFP22RPC-POD
ISBN (Print-On-Demand):	978-1-6654-5435-3
ISBN (Online):	978-1-6654-5434-6

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

2022 3rd International Conference on Electrical Engineering and Informatics (ICon EEI)

Virtual Presentation Track 1 Morning

<i>Applied Symbiotic Organisms Search Algorithm to Solve Economic Emission Dispatch Problems</i> Phan Van Hong Thang (Ho Chi Minh City University of Technology & HBT Company, Vietnam), Tran The Tung (Ho Chi Minh City University of Technology, Vietnam)	1
<i>High Voltage Plasma Convert Coconut Shell Charcoal to Few Layer Wrinkled Graphene (FLWG)</i> Fri Murdiya (Universitas Riau, Indonesia), Dede Irawan (Universitas Riau, Indonesia), Amir Hamzah (Universitas Riau, Indonesia), Suwitno Suwitno (Universitas Riau, Indonesia), M Rafi Epafra (Electrical Engineering, Indonesia), Firdaus Fakhruddin (Riau University, Indonesia)	6
<i>Analysis of PV Module Performance and Electrical Parameters Based on Different Tilt Angles</i> Nur Inaara Aiman Binti Fahmi (Universiti Teknologi Malaysia, Malaysia), Nur Hazirah Zainal (Universiti Teknologi Malaysia, Malaysia), Dalila Mat Said (Centre of Electrical Energy Systems (CEES), Universiti Teknologi Malaysia, Malaysia), Mohd Adib Sarjari (Universiti of Teknologi Malaysia, Malaysia), Mohamed Shahrizan Mohamed Yunus (Multimedia University, Malaysia), mohd shukri Dolah (Jabatan Kerja Raya, Malaysia), Nasarudin Ahmad (Universiti Teknologi Malaysia, Malaysia)	10
<i>The Effect of Lightning Characteristics on the Occurrence of Back Flashover on a 150 kV Transmission Line Using ATPDraw</i> Feranita Feranita (Universitas Riau, Indonesia), M Luthfi Andika Jefri (Universitas Riau, Indonesia), Fri Murdiya (Universitas Riau, Indonesia)	15
<i>Numerical Study on Cavities Shape for the Hydrothermal Performance of Microchannel Heat Sinks with Elliptical Ribs and Secondary Channels</i> Sen Rong Liu (South China Normal University, China), Pan Zhongliang (South China Normal University, China)	20
<i>Heat Transfer of Spray Dryer Extraction Machine Based on Parametric Design Modeling</i> Nurhayati Nurhayati (Universitas Negeri Surabaya, Indonesia), I Made Suartana (Universitas Negeri Surabaya, Indonesia), Fitri Adi Iskandarianto (Institut Teknologi Sepuluh Nopember, Indonesia)	26

Virtual Presentation Track 2 Morning

<i>Study of Bending Effect of G652 and G657 Optical Fibers on Power Transmission Losses</i> George Tongam (Universitas Indonesia, Indonesia), Catur Apriono (Universitas Indonesia, Indonesia)	32
<i>Analysis of XG-PON Based FTTH Design for Downstream and Upstream Configurations</i> Riko Adisatya (Universitas Indonesia, Indonesia), Yus Natali (Institut Teknologi Telkom Jakarta & Universitas Indonesia, Indonesia), Catur Apriono (Universitas Indonesia, Indonesia)	36
<i>Acetylene Black as Counter Electrode on Monolithic Perovskite Solar Cell</i> Junivan Sulistianto (Universitas Indonesia, Indonesia & Shizuoka University, Japan), Akinori Konno (Shizuoka University, Japan), Tomy Abuzairi (Universitas Indonesia, Indonesia), Nji Raden Poespawati (Universitas Indonesia, Indonesia)	42
<i>Hybrid Cooperative Spectrum Sensing Algorithm for Cognitive Radio Networks</i> Mohammed Alfaqawi (Capgemini Engineering, France)	47
<i>A Low Complexity Signal-To-Total Variance Precoding Scheme for Downlink Multi-Stream MU-MIMO Systems</i> Aamna Zahid Piracha (AJOU University, Pakistan), Hunaina Farid (University of Bologna, Italy), Kashif Shahzad (NUST College of EME, Pakistan), Muhammad Zeeshan (South East Technological University, Ireland)	53
<i>Comparative Study of PID and FOPID Control Techniques for a Quadcopter</i> Shreya Maggo (College of Engineering Pune, India), Sameer Hussain (College of Engineering Pune, India), Amruta Deshpande (College of Engineering Pune, India), Sanjaykumar Patil (College of Engineering Pune, India)	59

Virtual Presentation Track 3 Morning

<i>Hybrid Method to Identify Diabetic Retinopathy</i> Dian Candra Rini Novitasari (Universitas Islam Negeri Sunan Ampel, Indonesia), Fatmawati Fatmawati (Universitas Airlangga Surabaya, Indonesia), Rimuljo Hendradi (Universitas Airlangga, Indonesia)	64
<i>Majority Voting Transfer Learning CNN for Peanut Leaf Types Identification</i> Nur Nafi'iyah (Institut Teknologi Sepuluh Nopember, Indonesia), Nende Fatonah (Universitas Esa Unggul, Indonesia)	70
<i>Performance Evaluation of Intrusion Detection System Performance for Traffic Anomaly Detection Based on Active IP Reputation Rules</i> Didit Hari Kuncoro Raharjo (Universitas Indonesia, Indonesia), Ade Nurmala (Universitas Indonesia, Indonesia), Rico Dwo Pambudi (Universitas Indonesia, Indonesia), Riri Fitri Sari (University of Indonesia, Indonesia)	75
<i>Sentiment Analysis for Super Applications in Indonesia: A Case Study of Gov2Go App</i> Marzuki Piliang (Esa Unggul, Indonesia), Habibullah Akbar (Universitas Esa Unggul, Indonesia), Gerry Firmansyah (Esa Unggul University, Indonesia)	80
<i>A Comparative Study on Machine Learning-Based Prediction Models for Public Participation Rate in an Election Voting</i> Arif Senja Fitriani (INSTITUT TEKNOLOGI SEPULUH NOVEMBER & Universitas Muhammadiyah Sidoarjo, Indonesia)	86
<i>The Impact of Under-Sampling Techniques on Classification Accuracy in Multi-Class Imbalance Data</i> Suwanto Sanjaya (Universitas Islam Negeri Sultan Syarif Kasim Riau, Indonesia), Rahmad Abdillah (Universitas Islam Negeri Sultan Syarif Kasim Riau, Indonesia), Iis Afrianty (Universitas Islam Negeri Sultan Syarif Kasim Riau, Indonesia)	92
<i>Presenting a Client-Based Cross-Browser Web Privacy Measurement Framework for Automated Web Tracker Detection Research</i> Philip Raschke (Technische Universität Berlin, Germany), Thomas Cory (Technische Universität Berlin, Germany)	98

Virtual Presentation Track 1 Afternoon

<i>Machine Learning Based Techniques for Fault Detection in Power Distribution Grid: A Review</i> Oladapo Tolulope Ibitoye (Afe Babalola University, Nigeria), Moses O. Onibonaje (Afe Babalola University, Ado Ekiti, Nigeria), Joseph Dada (Afe Babalola University, Nigeria)	104
<i>Implementation of Five Types Strategies for Maximum Power Point Tracking in Photovoltaic System</i> Furqan AlDhahir (Middle Technical Universty & Middle Technical University, Iraq), Adel Obed (Middle Technical University, Iraq)	108
<i>Design and Development of Single Phase Inverter with Regulated Output Voltage</i> Suwitno Suwitno (Universitas Riau, Indonesia), Iswadi Hasyim Rosma (Universitas Riau, Indonesia), Amir Hamzah (Universitas Riau, Indonesia), Dian Yayan Sukma (Universitas Riau, Indonesia), Fri Murdiya (Universitas Riau, Indonesia)	114
<i>Design and Implementation of SEPIC Converter with MPPT P&O Algorithm plus PI Control Using STM32F4VET6</i> Hendrikus Ferdian Mahadewa (Soegijapranata Catholic University, Indonesia), Leonardus Heru Pratomo (Soegijapranata Catholic University, Indonesia)	120
<i>The Small-Scale Portable Power Generator Supports for MSMEs</i> Azriyenni Azhari Zakri (Universitas Riau, Indonesia), Dirman Hanafi (Universiti Tun Hussein Onn Malaysia, Malaysia & Universitas Bung Hatta, Indonesia), Fauzan Ahmad (University of Riau, Indonesia)	126

Virtual Presentation Track 2 Afternoon

<i>IoT-Based Monitoring and Control on Essential Oil Distillation Systems</i> Syamsul Syamsul (Politeknik Negeri Lhokseumawe, Indonesia), Suherman Suherman (Lecturer, Indonesia), Sri Yeni Widianti (Politeknik Negeri Lhokseumawe, Indonesia)	132
<i>Remotely Operated Rotary Inverted Pendulum System for Online Control Engineering Education</i> Ridma Ganganath Sumanasiri (University of Wolverhampton & The Kingdom of Raigam, Sri Lanka), Chathura R. Sumanasiri (University of Wolverhampton, Sri Lanka), Buddhika Annasiwaththa (University of Ruhuna Galle, Sri Lanka)	137

<i>Design and Analysis of Multimode Signaling and Crosstalk Harnessed Signaling Technique with FPGA Implementation</i>	
Azniza Abd Aziz (Intel Malaysia, Malaysia), Intan Zainal Abidin (Universiti Sains Malaysia, Malaysia)	143
<i>Arduino Based Vehicle Distance Locator, Accident Alert and Current Location Tracking Using IoT</i>	
Riasat Khan (North South University, Bangladesh & New Mexico State University, USA), Arif Rabbani (Pabna University of Science and Technology, Bangladesh), Md Nihal Al Rafi (North South University, Bangladesh), Khandoker Samiul Hoque (BRAC University, Bangladesh)	148
<i>Smart Garden Monstera Adansonii Based on IoT Using DHT11</i>	
Soraya Mustika (Universitas Negeri Malang, Indonesia), Muladi Muladi (State University of Malang & Universitas Negeri Malang, Indonesia), Anik Nur Handayani (Universitas Negeri Malang, Indonesia), Muhammad Afnan Habibi (Universitas Negeri Malang, Indonesia), Zein Farhan Makarim (State University of Malang, Indonesia), Eko Noerhayati (Universitas Islam Malang, Indonesia)	153
<i>FPGA Based DCO with Fine Control Correlation Calibration Technique</i>	
Abdullah Ibrahim Almasoud (King Saud University & Advanced Electronics Company, Saudi Arabia), Mohamed Abbas (King Saud University, Saudi Arabia), Mohammed Abdelmonem Abou ElEla (King Saud University, Egypt), Abdullah Alghaihab (King Saud University, Saudi Arabia)	157

Virtual Presentation Track 3 Afternoon

<i>A Method Comparison on Multi-Label Question Classification for Assessment-Based Personalised Scaffolding Adaptive Learning Path</i>	
Yulia Wahyuningsih (Institute Of Technology Sepuluh Nopember & Widyathama Parahita, Indonesia), Arif Djunaidy (Institut Teknologi Sepuluh Nopember, Indonesia), Daniel Oranova Siahaan (Institut Sepuluh Nopember, Indonesia)	162
<i>Masked Faces Classification Using Deep Convolutional Neural Network with VGG-16 Architecture</i>	
Oladapo Tolulope Ibitoye (Afe Babalola University, Nigeria), Oluwafunso Oluwole Osaloni (Afe Babalola University, Nigeria, South Africa)	168
<i>A Review of Gamification Related to Mental Health Treatment</i>	
Daniel Fujiono (University of Bina Nusantara, Indonesia), Calvin Arihta (University of Bina Nusantara, Indonesia), Veronica Lee (University of Bina Nusantara, Indonesia)	172
<i>Image Retrieval of Indonesian Batik Clothing Based on Convolutional Neural Network</i>	
Mutia Fadhilla (Universitas Islam Riau, Indonesia), Des Suryani (Universitas Islam Riau, Indonesia), Nesi Syafitri N (Universitas Islam Riau, Indonesia), Hendra Gunawan (Universitas Islam Riau, Indonesia)	177
<i>Interactive English Teaching and Learning Based on Mobile Application</i>	
Panji Rachmat Setiawan (Universitas Islam Riau, Indonesia), Arbi Haza Nasution (Universitas Islam Riau, Indonesia), Anggi Hanafia (Universitas Islam Riau, Indonesia), Yudhi Arta (Universitas Islam Riau, Indonesia), Evizal Abdul Kadir (Universitas Islam Riau, Indonesia), Rizdqi Akbar Ramadhan (Universitas Islam Riau, Indonesia)	181
<i>Image Segmentation of Palm Leaf Pests to Determine Caterpillar Egg Populations Using Marker Watershed</i>	
Ana Yulianti (Universitas Islam Riau, Indonesia), Ause Labellapansa (University of Islam Riau, Indonesia), Hanafia Pertiwi (Universitas Islam Riau, Indonesia), Sri Listia Rosa (Universitas Islam Riau, Indonesia), Muhammad Rizki Fadhilah (Universitas Islam Riau, Indonesia), Octadino Haryadi (Universitas Islam Riau, Indonesia)	186
<i>Fire Hotspots Mapping and Forecasting in Indonesia Using Deep Learning Algorithm</i>	
Sri Listia Rosa (Universitas Islam Riau, Indonesia), Evizal Abdul Kadir (Universitas Islam Riau, Indonesia), Abdul Syukur (National Taiwan University Science and Technology, Taiwan), Hitoshi Irie (Chiba University, Japan), Rizky Wandri (Universitas Islam Riau, Indonesia), Muhammad Fikri Evizal (National Taiwan University Science and Technology, Taiwan)	190