

# **2023 IEEE International Conference on Communication, Networks and Satellite (COMNETSAT 2023)**

**Malang, Indonesia  
23-25 November 2023**



**IEEE Catalog Number: CFP2331S-POD  
ISBN: 979-8-3503-4111-9**

**Copyright © 2023 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:	CFP2331S-POD
ISBN (Print-On-Demand):	979-8-3503-4111-9
ISBN (Online):	979-8-3503-4110-2

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## Table of Contents

Title Page

Welcome Message from General Chair

Committee

Program Schedule

### ***Keynote Speech***

#### **Keynote 1**

Cybersecurity, Privacy, and the Networking

Prof. Shui Yu (University of Technology Sydney)

#### **Keynote 2**

Communication Networks and Dynamical Systems

Prof. Ljiljana Trajkovic (Simon Fraser University, Canada)

#### **Keynote 3**

Optical System and Technology

Prof. Tarek S. El-Bawab, PhD, FIEEE (American University of Nigeria (AUN), Adamawa)

#### **Keynote 4**

MR. CHEE Seng Kee (Keysight Application Development Engineer)

<b>1570948005</b>	<b>Doppler Spectrum of High Speed Train Channel Model for DVB-T2 Application</b>	<b>1</b>
	Anggun Fitriani Isnawati, Wahyu Pamungkas and Muhammad Panji Kusuma Praja (Institut Teknologi Telkom Purwokerto, Indonesia)	
<b>1570943423</b>	<b>Channel Sounder in Indoor Environment with Multipath Fading using Software Defined Radio</b>	<b>8</b>
	Wahyu Pamungkas, Anggun Fitriani Isnawati and Solichah Larasati (Institut Teknologi Telkom Purwokerto, Indonesia); Ari Endang Jayati (Universitas Semarang, Indonesia); Elfira Nureza Ardina (Politeknik Negeri Semarang, Indonesia); Jans Hendry (Universitas Gadjah Mada, Indonesia)	
<b>1570948177</b>	<b>Enhancing Data Rate and Coverage in Private 5G Network: A Comparative Study of 4x4 MIMO and 8x8 MIMO Antennas</b>	<b>15</b>
	Asri Wulandari (Politeknik Negeri Jakarta, Indonesia); Alfin Hikmaturokhman (Institut Teknologi Telkom Purwokerto, Indonesia); Marfani Marfani (PT Telkomsel, Indonesia)	

<b>1570941377</b>	<b>Phase Shifter Digitalization Effect On The Scanning Performance Of Phased Array Antenna With Integrated Subarrays</b> Fannush Shofi Akbar (Institut Teknologi Telkom Surabaya, Indonesia); Gamantyo Hendratoro (Institut Teknologi Sepuluh Nopember, Indonesia); Leo P. Ligthart (em. prof. Delft University of Technology & Universitas Indonesia, Bejing Institute of Technology, ITS Surabaya, The Netherlands); Titis Cahya Pertiwi (Institut Teknologi Sepuluh Nopember, Indonesia)	<b>22</b>
<b>1570935380</b>	<b>A Wireless Tire Pressure and Temperature Monitoring System Based on Software Defined Radio</b> Hendy Briantoro (Institut Teknologi Telkom Surabaya, Indonesia); Ardiansyah Al Farouq (Institut Teknologi Telkom Surabaya, Indonesia & Electronics Engineering Polytechnic Institute of Surabaya (EEPIS), Indonesia); Billy Montolalu, Aliffianto Nur Huda and Mohammad Nur Effendy (Institut Teknologi Telkom Surabaya, Indonesia)	<b>27</b>
<b>1570957621</b>	<b>A 5.8 GHz Circularly Polarized Microstrip Antenna Array for 1U CubeSat</b> Teguh Prakoso, Ervina Sukoriyanti, Karina Laras Novitasari and Munawar Riyadi (Diponegoro University, Indonesia)	<b>33</b>
<b>1570951515</b>	<b>QoS Evaluation of Wireless Sensor Networks for Toxic Gas Monitoring in Volcanic Areas: A Test-Bed Study of LoRa Communication using Master Slave TDD Method</b> Bima Romadhon Parada Dian Palevi (Institut Teknologi Sepuluh Nopember, Indonesia); Citra Dewi Megawati CM (Institut Teknologi Sepuluh November Surabaya, Indonesia); Irmalia Faradisa (Institut Teknologi Sepuluh Nopember & Institut Teknologi Nasional Malang, Indonesia); Sotyohadi Sotyohadi (National Institute of Technology (ITN) Malang, Indonesia)	<b>39</b>
<b>1570929725</b>	<b>Experimental Study of 500 MHz Low-Power Radiative WPT for Low-Power Home Electronic Appliances</b> Dwi Edi Setyawan (Institut Teknologi Sepuluh Nopember, Indonesia); Iwan Wirawan (ITS, Indonesia); Eko Setijadi (Institut Teknologi Sepuluh Nopember, Indonesia)	<b>47</b>
<b>1570958277</b>	<b>Planning Design of 5G-NR 26 GHz Mobile Network for Vehicle to Everything Services in Denpasar City</b> Arrizky Ayu Faradila Purnama (Institute of Technology Telkom Surabaya & Faculty of Electrical Technology and Intelligent Industry, Indonesia)	<b>53</b>
<b>1570920838</b>	<b>Optimal Tourism Itinerary Recommendation Using Cuckoo Search Algorithm (Case Study: Yogyakarta Region)</b> Ahmad Nur Rizal and Z. k. a. Baizal (Telkom University, Indonesia)	<b>59</b>
<b>1570922188</b>	<b>Predictive Maintenance Application on Machine Overstrain Failure with Node-Red and Isolation Forest Anomaly Detection</b> Aji Gautama Putrada, Nur Alamsyah, Mohamad Nurkamal Fauzan, Syafrial Fachri Pane and Doan Perdana (Telkom University, Indonesia)	<b>64</b>

<b>1570920199</b>	<b>Dietary Food Ingredients Recommendation for Patients with Hypertension Using a Genetic Algorithm</b> Nalurisa Izma Mardiana (Universitas Telkom, Indonesia); Z. k. a. Baizal (Telkom University, Indonesia)	<b>70</b>
<b>1570920486</b>	<b>Modelling Resource Allocation and Job Scheduling in Telecommunications Distribution Logistics using Artificial Immune System Algorithm</b> Miftahol Arifin, Yulinda Uswatun Kasanah, Nabila Noor Qisthani and Marshal Brilian Anarsyah (Institut Teknologi Telkom Purwokerto, Indonesia)	<b>76</b>
<b>1570928119</b>	<b>Vehicle License Plate and Dimension Target Detection in Complex Scenes based on YOLO Algorithms Integrated with Artificial Intelligence Recognition</b> Rizky P Alexsah (Binus University & Universitas Bina Nusantara, Indonesia); Peter Peter (Binus University, Indonesia); Yohan Muliono and Simeon Yuda Prasetyo (Bina Nusantara University, Indonesia)	<b>85</b>
<b>1570932503</b>	<b>Automated Blast Cell Detection for Acute Lymphoblastic Leukemia Using a Stacking Ensemble of Convolutional Neural Networks</b> Wayne Matthew A Dayata, Sabrinah Yonell C Yap and Christine D Bandalan (University of San Carlos, Philippines)	<b>95</b>
<b>1570918398</b>	<b>Drug Prediction Based on Customer Reviews</b> Tina Torabinejad and Roya Zeinali (CSUF, USA); Kanika Sood (California State University, Fullerton, USA)	<b>103</b>
<b>1570919483</b>	<b>Phishing URL Detection in Isolated Systems</b> Kanika Sood (California State University, Fullerton, USA); Trevor Long (CSUF, USA)	<b>113</b>
<b>1570918391</b>	<b>Content-Based Music Recommendation System using Supervised Learning</b> Kanika Sood (California State University, Fullerton, USA)	<b>120</b>
<b>1570939245</b>	<b>Implementation Of Monitoring And Prediction Of Humidity, Temperature, and Light using Gaussian Process Regression (GPR) For Orchid Green House In Lembang</b> Aditya Fauziah and Hilal H. Nuha (Telkom University, Indonesia)	<b>128</b>
<b>1570939321</b>	<b>Few-Shot Object Detection for Classifying Reported Urban Problem</b> Nadya Novalina (Jakarta Smart City, Indonesia); Irfan Dwiki Bhaswara (Jakarta Smart City & Universitas Gadjah Mada, Indonesia); Nur Laily Romadhotul Husna, Annida Fitriyya and Bahrul Ilmi Nasution (Jakarta Smart City, Indonesia); Yudhistira Nugraha (Telkom University, Indonesia); Juan Kanggrawan (Jakarta Smart City, Indonesia)	<b>134</b>

<b>1570939525</b>	<b>Accuracy of Machine Learning for Classifying Malicious URL</b> Muhammad Risaldi (University of Makassar, Indonesia)	<b>141</b>
<b>1570941343</b>	<b>Deep Learning Approach Using K-Nearest Neighbors and Neural Network for Quality Assurance of Water Temperature Sensor in Automatic Weather Station</b> Tiven Sandro (State College of Meteorology Climatology and Geophysics & Indonesian Agency for Meteorology Climatology and Geophysics, Indonesia); Aly Ilyas (University of Indonesia & BMKG, Indonesia); Hairatunnisa Hairatunnisa, Hanif Cahyo Romadhon and Elvita Octa Yolinda (BMKG, Indonesia); Hanif Andi Nugraha (Indonesia Agency for Meteorology Climatology and Geophysics, Indonesia); Maulana Putra (Universitas Indonesia, Indonesia)	<b>147</b>
<b>1570941374</b>	<b>Classification of Alphabetic Handwriting of Pre-toddlers Using Support Vector Machine Method</b> Sabila Amanda Putri Riyadi, Putu Harry Gunawan and Aditya Firman Ihsan (Telkom University, Indonesia)	<b>153</b>
<b>1570941567</b>	<b>Maintaining Image Size by Developing the Cropping Rectangle Method on CT-Scan Images</b> Guslendra Guslendra, Yuhandri Yuhandri and Sarjon Defit (Universitas Putra Indonesia YPTK Padang, Indonesia)	<b>158</b>
<b>1570941602</b>	<b>Performance Enhancement of Individual Learning Methods for Sentiment Analysis Using Ensemble Learning and Soft Voting Techniques</b> Mawardi Kudin (Hasanuddin University, Indonesia); Amil Ahmad Ilham and Ady Wahyudi Paundu (Universitas Hasanuddin, Indonesia)	<b>164</b>
<b>1570941832</b>	<b>Hate Speech Detection using CNN and BiGRU with Attention Mechanism on Twitter</b> Qomarudin Sifak and Erwin B. Setiawan (Telkom University, Indonesia)	<b>170</b>
<b>1570941878</b>	<b>A comparison of Classification Algorithms for Software Defect Prediction</b> Zakaria A. Hamed Alnaish and Safwan Omar Hasoon (University of Mosul, Iraq)	<b>176</b>
<b>1570942133</b>	<b>K-Means Clustering of the Mental Health of Engineering Students at the Universitas Islam Lamongan</b> Nur Nafi'iyah (Institut Teknologi Sepuluh Nopember, Indonesia); Retno Wardhani (Universitas Islam Lamongan, Indonesia)	<b>181</b>
<b>1570944848</b>	<b>Application for Child Persona Identification Using Child-Based Personas Framework</b> Indra Deva Aji Zakaria, Mira Kania Sabariah and Veronikha Effendy (Telkom University, Indonesia)	<b>187</b>

- 1570948016 Sentiment Analysis of Twitter Data on Bank Central Asia Stocks (BBCA) Using RNN and CNN Model with GloVe Feature Expansion 195**  
Erwin B. Setiawan (Telkom University, Indonesia); Muhammad Kamil Hasan (Universitas Telkom, Indonesia)
- 1570945309 Development of Stock Price Prediction System Using NeuralProphet: A Combination of Deep Learning and Statistical Approach 201**  
Alexander Agung Santoso Gunawan and Ananda Bilal (Bina Nusantara University, Indonesia)
- 1570946943 Diabetic Retinopathy Diagnosis System Based on Retinal Biomarkers Using EfficientNet-B0 for Android Devices 207**  
Alexander Agung Santoso Gunawan, Alvin Matthew and Felix Indra Kurniadi (Bina Nusantara University, Indonesia)
- 1570948010 Feature Expansion with GloVe for Hate Speech Detection Using Convolutional Neural Network (CNN) and Long Short-term Memory (LSTM) Methods on Twitter 213**  
Erwin B. Setiawan (Telkom University, Indonesia); Muh. Fachrul Hidayat (Universitas Telkom, Indonesia)
- 1570945454 Predictive Analysis on the Price of Dogecoin Using Tweet Sentiments and Volume of Tweets with LSTM 219**  
Ivan Ric P. Woogue, Angie Ceniza-Canillo and Sana Izumi (University of San Carlos, Philippines)
- 1570944945 Blockchain-Based Framework for Secure Monitoring of Vehicles Traffic Flow System 226**  
Nawar A. Sultan (University of Mosul, Iraq); Rawaa Qasha (University of Mosul, Iraq & Newcastle University, United Kingdom (Great Britain))
- 1570946891 Design of Company Financial Health Prediction System with Extra Trees Method Based on Fundamental Analysis 232**  
Alexander Agung Santoso Gunawan, Wilson Novaldo and Muhammad Ibrahim (Bina Nusantara University, Indonesia)
- 1570950848 Hemorrhagic Stroke Classification on Computerized Tomography Scan Images of the Brain using CNN Algorithm 239**  
Annida Nur Islami, Agi Prasetiadi and Nur Ghaniaviyanto Ramadhan (Institut Teknologi Telkom Purwokerto, Indonesia)

<b>1570952345</b>	<b>Classification of Topics Using Bi-LSTM and CNN with the Feature Expansion on Twitter</b> Erwin B. Setiawan (Telkom University, Indonesia); Yusuf Kamal Siregar (Universitas Telkom, Indonesia)	<b>245</b>
<b>1570954291</b>	<b>Fourier Domain Adaptation for Image Augmentation in CNN-based Pneumonia Classification</b> Wahyu Andi Saputra (Institut Teknologi Telkom Purwokerto, Indonesia); Arif Wirawan Muhammad (Institut Teknologi Telkom Purwokerto & Universiti Tun Hussein Onn, Indonesia); Diah Septiani (Universitas Gadjah Mada, Indonesia)	<b>251</b>
<b>1570954918</b>	<b>An Implementation of YOLOv5 and Flutter Framework for Fruit and Vegetable Object Detection</b> Akhmad Nur Alamsyah, Novian Adi Prasetyo, Fahrudin Mukti Wibowo and Arif Amrulloh (Institut Teknologi Telkom Purwokerto, Indonesia)	<b>259</b>
<b>1570952726</b>	<b>The Understanding of Customer Satisfaction on A Fintech Application Using A Machine Learning Approach</b> Rona Nisa Sofia Amriza (Institut Teknologi Telkom Purwokerto, Indonesia); Fajrin Nurhakim (Institut Teknologi Telkom Purwokerto, Indonesia); Dwi Januarita (Institut Teknologi Telkom Purwokerto, Indonesia)	<b>265</b>
<b>1570956181</b>	<b>Classification of Siam Orange Ripeness Level using K-Nearest Neighbors Algorithm and Features Gray Level Run Length Matrix</b> Mustika Mentari (Politeknik Negeri Malang, Indonesia); Cahya Rahmad and Moch. Syifa Muchlisin (State Polytechnic of Malang, Indonesia); Septian Enggar Sukmana (Politeknik Negeri Malang, Indonesia)	<b>272</b>
<b>1570952440</b>	<b>Detecting Derogatory Comments On Women Using Transformer-Based Models</b> Sara Jerin Prithila, Fariha Hasan Tonima, Tahsina Tajrim Oishi and Md. Nazrul Islam (Brac University, Bangladesh); Ehsanur Rahman Rhythm (BRAC University, Bangladesh); Adib Muhammad Amit and Annajiat Alim Rasel (Brac University, Bangladesh)	<b>278</b>
<b>1570952544</b>	<b>Bengali Misogyny Identification with Deep Learning and LIME</b> Shafakat Sowroar Arnob, M. A. Ahad Shikder and Tashfiq Alam Ovey (Brac University, Bangladesh); Ehsanur Rahman Rhythm (BRAC University, Bangladesh); Annajiat Alim Rasel (Brac University, Bangladesh)	<b>285</b>
<b>1570954134</b>	<b>Comparative Analysis of Traditional and Contextual Embedding for Bangla Sarcasm Detection in Natural Language Processing</b> Kaji Mehedi Hasan Fahim, Mithila Moontaha and Mashrur Rahman (Brac University, Bangladesh); Ehsanur Rahman Rhythm (BRAC University, Bangladesh); Annajiat Alim Rasel (Brac University, Bangladesh)	<b>293</b>



<b>1570955854</b>	<b>Coronary Heart Disease Prediction through Machine Learning using Non-Laboratory Risk Factors</b>	<b>300</b>
	Hannah Ruth B Labana, Marc Nathaniel Valeros and Angie Ceniza-Canillo (University of San Carlos, Philippines)	
<b>1570960298</b>	<b>CNN vs Transformer Variants: Malware Classification Using Binary Malware Images</b>	<b>308</b>
	Mohammad Muhibur Rahman, Anushua Ahmed, Mutasim Husain Khan and Mohammad Rakibul Hasan Mahin (BRAC University, Bangladesh); Fahmid Bin Kibria and Dewan Ziaul Karim (Brac University, Bangladesh); Mohammad Kaykobad (Bangladesh University of Engineering and Technology, Bangladesh)	
<b>1570957540</b>	<b>Churn Prediction Model Based on Logistic Regression in the Telecommunications Industry: Big Data Analysis</b>	<b>316</b>
	Famila Dwi Winati (Telkom Institute of Technology, Indonesia); Miftahol Arifin, Aiza Yudha Pratama, Halim Qista Karima and Muhammad Iqbal Faturohman (Institut Teknologi Telkom Purwokerto, Indonesia)	
<b>1570958689</b>	<b>Ensemble Soft-Voting Model for Classification Optimization of Medicinal Plants Leaves</b>	<b>324</b>
	Amriana Amriana (Hasanuddin University & Tadulako University, Indonesia); Amil Ahmad Ilham, Andani Achmad and Yusran Yusran (Universitas Hasanuddin, Indonesia)	
<b>1570957803</b>	<b>Product Layout Recommendations based on Customer Behavior and Data Mining</b>	<b>330</b>
	Mahda Laina Arnumukti (Institut Teknologi Telkom Purwokerto, unknown); Sudianto Sudianto and Umami Athiyah (Institut Teknologi Telkom Purwokerto, Indonesia)	
<b>1570958904</b>	<b>Fault Identification in Honda Scoopy 110CC Continuous Variable Transmission Using Backpropagation Neural Networks</b>	<b>335</b>
	Rizky Dwi Santoso (Institut Teknologi Telkom Purwokerto, Indonesia); Zein Hanni Pradana (Institut Teknologi Telkom Purwokerto & ST3 Telkom Purwokerto, Indonesia); Gunawan Wibisono (Institut Teknologi Telkom Purwokerto, Indonesia)	
<b>1570960252</b>	<b>Cloud Computing-Based API Design and Implementation for Hening Mobile Application</b>	<b>341</b>
	Hubert Igor Haryatmo Tandri, Hilal H. Nuha and Rio Guntur Utomo (Telkom University, Indonesia)	
<b>1570957903</b>	<b>A Fuzzy-Bayesian-Based Method for River Flood Early Warning System</b>	<b>347</b>
	Rinta Kridalukmana, Dania Eridani and Risma Septiana (Diponegoro University, Indonesia)	

<b>1570957917</b>	<b>Implementing Set-Valued k-Modes Clustering Technique to Enhance the Quality of Library Book Recommendation System using Hybrid Semantic Ontology-based model</b>	<b>353</b>
	Imam Fadhkur Rokhim, Noor Ifada and Fika Hastarita Rachman (University of Trunojoyo Madura, Indonesia)	
<b>1570958688</b>	<b>Optimal Feature Selection Using Modified COVID Optimization Algorithm</b>	<b>359</b>
	Murisnan Murisnan (Hasanuddin University, Indonesia); Amil Ahmad Ilham and Adnan Adnan (Universitas Hasanuddin, Indonesia)	
<b>1570957634</b>	<b>Motor Vehicle Crash Detection Using YOLOv8 Algorithm</b>	<b>365</b>
	Jose Glen A. Samson, Jade Andrie T Rosales and Christian V. Maderazo (University of San Carlos, Philippines)	
<b>1570957826</b>	<b>Numerical Fourier-Bessel Transform on CUDA GPU Implementation</b>	<b>372</b>
	Huda Nasrulloh (University of Science and Technology of China, China)	
<b>1570957897</b>	<b>Multilabel Emotion Recognition Through Sequence Labeling and Sentence Classification Models Using Textual Data</b>	<b>378</b>
	Christian Anthony C. Stewart, Jomar Leaño and Christine F Peña (University of San Carlos, Philippines)	
<b>1570930641</b>	<b>Bidirectional Radio Over Fiber with Millimeter Wave to Support 5G Fronthaul Network</b>	<b>386</b>
	Ainamardiah Putri Fatikah and Catur Apriono (Universitas Indonesia, Indonesia); Yus Natali (Universitas Telkom Jakarta & Universitas Indonesia, Indonesia)	
<b>1570956013</b>	<b>Evaluation of Aperture Diameter Variation on OFDM Inter-Satellite Optical Wireless Communication (Is-OWC)</b>	<b>391</b>
	I Wayan Mustika (Universitas Gadjah Mada, Indonesia); Sevia Mahdaliza Idrus Sutan Nameh (Universiti Teknologi Malaysia, Malaysia); Anggun Fitriani Isnawati and Fauza Khair (Institut Teknologi Telkom Purwokerto, Indonesia); Fakhriy Hario (Universitas Brawijaya, Indonesia); Eka Wahyudi (Institut Teknologi Telkom Purwokerto & Yayasan Pendidikan Telkom, Indonesia)	
<b>1570949737</b>	<b>Analysis Of Radiation Pattern and Gain Offset VSAT Antenna Ku-Band Frequency</b>	<b>397</b>
	Muhammad Panji Kusuma Praja and Imam Muhammadi PB (Institut Teknologi Telkom Purwokerto, Indonesia); Tennov Caesar Alwi, Caesar (Institut of Technolgy Telkom Purwokerto, Indonesia)	

- |            |  |     |
|------------|--|-----|
| 1570941356 | <p><b>Exploiting Doppler Diversity for Inter-satellite Multiple Access in Massive LEO Constellations</b></p> <p>Donatella Darsena (University of Naples Federico II, Italy); Giacinto Gelli (University of Napoli - Federico II, Italy); Ivan Iudice (CIRA - Italian Aerospace Research Centre, Italy); Francesco Verde (University of Napoli Federico II &amp; National Inter-University Consortium for Telecommunications, Italy)</p>  | 401 |
| 1570947377 | <p><b>Optimizing RF Energy Harvesting for IoT Devices: Impedance Matching and Voltage Multiplier Solutions</b></p> <p>Mohammad Yanuar Hariyawan (Institut Teknologi Telkom Surabaya, Indonesia)</p>  | 407 |
| 1570956006 | <p><b>Pointing Error Angle Evaluation of OFDM Inter-satellite Optical Wireless Communication (Is-OWC) on LEO-MEO Satellite</b></p> <p>I Wayan Mustika (Universitas Gadjah Mada, Indonesia); Sevia Mahdaliza Idrus Sutan Nameh (Universiti Teknologi Malaysia, Malaysia); Fauza Khair and Anggun Fitriani Isnawati (Institut Teknologi Telkom Purwokerto, Indonesia); Fakhriy Hario (Universitas Brawijaya, Indonesia); Eka Wahyudi (Institut Teknologi Telkom Purwokerto &amp; Yayasan Pendidikan Telkom, Indonesia)</p> | 415 |
| 1570931872 | <p><b>Analysis Of Fingerprint Image Recognition Using Deep Residual Convolutional Neural Network</b></p> <p>Rosa Andrie Asmara and Juanda Rahimatullah (Politeknik Negeri Malang, Indonesia); Cahya Rahmad (State Polytechnic of Malang, Indonesia); Anik Nur Handayani (Universitas Negeri Malang, Indonesia)</p>   | 422 |
| 1570932875 | <p><b>Revolutionizing Robot Sorting: Unleashing the Power of Dobot Magician Arm's Kinematics Inverse Transformation System with Depth Camera</b></p> <p>Ardiansyah Al Farouq (Institut Teknologi Telkom Surabaya, Indonesia &amp; Electronics Engineering Polytechnic Institute of Surabaya (EEPIS), Indonesia); Dimas Mahendra Budi (Institut Teknologi Telkom Surabaya, Indonesia)</p>   | 428 |
| 1570941695 | <p><b>K-Means Clustering of Electricity Consumption from IoT Data: A Case Study in Electrical Engineering Department Building, National Institute of Technology (ITN)</b></p> <p>Irrine Budi Sulistiawati (Institut Teknologi Nasional Malang, Indonesia); Aryuanto Soetedjo (National Institute of Technology (ITN) Malang, Indonesia); F Yudi Limpraptono (Institut Teknologi Nasional Malang, Indonesia); Sugeng Priyanto (YTL Jawa Timur, Indonesia)</p>   | 434 |
| 1570942048 | <p><b>Comparison of Short-Term Electrical Load Forecasting Models using Datasets from The Building Automation System in The Department of Electrical Engineering ITN</b></p> <p>Radimas Putra Muhammad Davi Labib (Institut Teknologi Nasional Malang, Indonesia); Aryuanto Soetedjo (National Institute of Technology (ITN) Malang, Indonesia); Irrine Budi Sulistiawati, F Yudi Limpraptono and Awan Krismanto (Institut Teknologi Nasional Malang, Indonesia)</p>   | 441 |

1570957888	<b>A Novel Short-Length Single Channel EEG Based Personal Identification System</b>	446
	Muhammad Afif Hendrawan, M. Hasyim Ratsanjani, Noprianto Noprianto and Habibie Dien (Politeknik Negeri Malang, Indonesia)	
1570957908	<b>A Comprehensive Examination of the WebP utilizing JavaScript and React Library</b>	453
	Zulkifli Tahir (Hasanuddin University, Indonesia); Muhammad Niswar and Wardi Wardi (Universitas Hasanuddin, Indonesia); Iqra Aswad (Hasanuddin University, Indonesia); Muhammad Fauzan Amzar (Universitas Hasanuddin, Indonesia)	
1570957815	<b>Doppler Effect Compensation Using Zero Forcing Equalizers on FBMC-OQAM System with V2V Channel With Moving Scatterers</b>	458
	Wahyu Pamungkas and Anggun Fitriani Isnawati (Institut Teknologi Telkom Purwokerto, Indonesia); Arif Ramadha (PT Telkom, Indonesia)	
1570948044	<b>Experimental Of Circular Patch Microstrip Antenna Using Defected Ground Structure (DGS) Methods in DVB-T2 Applications</b>	464
	Muhammad Panji Kusuma Praja (Institut Teknologi Telkom Purwokerto, Indonesia); Sofian Dwi Ashari, Dwi (Institut of Technolgy Telkom Purwokerto, Indonesia); Agung Wicaksono (Institut Teknologi Telkom Purwokerto, Indonesia)	
1570941867	<b>Design of Double Circular Microstrip Antenna for High Frequency Communication Application</b>	470
	Nurhayati Nurhayati, Widia Faradila Putri, Muhammad Nurul Huda and Hasan Abdul Bar (Universitas Negeri Surabaya, Indonesia)	
1570945354	<b>Experimental of Rectangular Microstrip Antenna using Parasitic Element for DVB-T2 Applications</b>	475
	Muhammad Panji Kusuma Praja and Shinta Romadhona (Institut Teknologi Telkom Purwokerto, Indonesia); Rizal Fauzi (Institut of Technolgy Telkom Purwokerto, Indonesia)	
1570941843	<b>Design Rectangular Patch Antenna using Sun Flower DGS Slot for WLAN Application</b>	481
	Nurhayati Nurhayati and Fransisca Cicik Priyoga (Universitas Negeri Surabaya, Indonesia); Raimundo Eider Figueredo (IFSP, Brazil)	
1570950328	<b>Two-Stage Encryption for Strengthening Data Security in Web-Based Databases: AES-256 and RSA Integration</b>	486
	Dimas Gumerang Ryandika and Wahyu Adi Prabowo (Institut Teknologi Telkom Purwokerto, Indonesia)	

<b>1570928643</b>	<b>Low Complex Hybrid Deep Learning Model for Automatic Modulation Classification</b> Bandaru Bhavana and Samrat Sabat (University of Hyderabad, India); Swetha Namburu (Weatherford International, Mumbai, India); Trilochan Panigrahi (National Institute of Technology, Goa, India)	<b>493</b>
<b>1570941780</b>	<b>Exploiting the temporal dimension of reconfigurable intelligent surfaces for multiuser downlink</b> Francesco Verde (University of Napoli Federico II & National Inter-University Consortium for Telecommunications, Italy); Donatella Darsena (University of Naples Federico II, Italy); Vincenzo Galdi (University of Sannio, Italy)	<b>499</b>
<b>1570941849</b>	<b>The Effect of Hardware Impairments on OFDM-IM Systems over Generalized Non-Homogeneous Fading Channels</b> Büşra Ceniklioğlu (Nuh Naci Yazgan University, Turkey)	<b>505</b>
<b>1570951293</b>	<b>Evaluation of GFDM-OQAM Performance Using Variation of Equalizations and Roll-Off Factors</b> Larasati Saafa Lathifahsari, Larassaafa (Institute of Technology Telkom Purwokerto, Indonesia); Anggun Fitriani Isnawati and Alfin Hikmaturokhman (Institut Teknologi Telkom Purwokerto, Indonesia)	<b>511</b>
<b>1570957747</b>	<b>Assessing 5G Network Deployment Strategies in a Industrial Zone: A Case Study on Coverage and Capacity Planning</b> Mafana Nur Hamidah, Alfin Hikmaturokhman and Reni Dyah Wahyuningrum (Institut Teknologi Telkom Purwokerto, Indonesia)	<b>518</b>
<b>1570957843</b>	<b>Blocking Object Effect in Propagation Channel of Millimeter Wave Wireless Communication</b> Hana Arisesa (Universiti Teknologi Malaysia, Indonesia & National Research and Innovation Agency, Indonesia); Sevia Mahdaliza Idrus Sutan Nameh and Farabi Iqbal (Universiti Teknologi Malaysia, Malaysia); Adhi Purwoko (National Research and Innovation Agency (BRIN), Indonesia); Yusuf Nur Wijayanto (Indonesian Institute of Sciences (LIPI), Indonesia)	<b>525</b>
<b>1570958945</b>	<b>Drone-Enabled Load Management for Solar Small Cell Networks in Next-Gen Communications Optimization for Solar Small Cells</b> Daksh R Dave (BITS Pilani, India); Dhruv D Khut and Sahil S Nawale (Sardar Patel Institute of Technology, India); Pushkar Aggrawal (BITS Pilani, India); Disha Rastogi (Ajay Kumar Garg College of Engineering, India); Kailas Devadkar (University of Mumbai, India)	<b>530</b>
<b>1570910315</b>	<b>TCP and UDP Traffic Performance Trade-off on VRRP-BGP Routing Protocol in VyOS</b> Falah Uji Raharjo, Fauza Khair and Eko Fajar Cahyadi (Institut Teknologi Telkom Purwokerto, Indonesia)	<b>536</b>

<b>1570932304</b>	<b>Security and Performance Analysis of Edge Computing in IoT</b> Mohammed Ibrahim El-hajj (Twente University, The Netherlands); Radmehr Ghadiri (University of Twente, The Netherlands)	<b>542</b>
<b>1570933655</b>	<b>Performance and Security Analysis of Privacy-Preserved IoT Applications</b> Mohammed Ibrahim El-hajj (Twente University, The Netherlands); Brianna Dringa (University of Twente, The Netherlands)	<b>549</b>
<b>1570924104</b>	<b>A Paradigm For Collaborative Pervasive Fog Computing Ecosystems at the Network Edge</b> Abderrahmen Mtibaa (University of Missouri St. Louis, USA)	<b>N/A</b>
<b>1570937072</b>	<b>5G Private Network Simulation for Port Industrial Area at Millimeter-Wave Frequency</b> Olyvia Fransiska Andriani and Muhammad Imam Nashiruddin (Telkom University, Indonesia); Nachwan Mufti Adriansyah (Universitas Telkom, Indonesia)	<b>563</b>
<b>1570941553</b>	<b>Design of Water Level and Drainage Monitoring System Based on Internet of Things</b> Mochammad Zen Samsono Hadi, Vinda Renzyana Putri and Mike Yuliana (Politeknik Elektronika Negeri Surabaya, Indonesia)	<b>570</b>
<b>1570930118</b>	<b>Systematic Literature Review of Monetization in Mobile App: Strategies, Trends, Challenges, and Best Practices</b> Heryan Djaruma and Zaki Widyadhana Wirawan (Bina Nusantara, Indonesia); Karen Etania Saputra and Alexander Agung Santoso Gunawan (Bina Nusantara University, Indonesia)	<b>577</b>
<b>1570948856</b>	<b>5G Private Network Assessment for Port Industrial Area: Study Case in Port of Tanjung Priok</b> Olyvia Fransiska Andriani and Muhammad Imam Nashiruddin (Telkom University, Indonesia); Nachwan Mufti Adriansyah (Universitas Telkom, Indonesia)	<b>584</b>
<b>1570941549</b>	<b>Smart Agriculture System Design to Realize Food Sustainability Based on LoRa Communication</b> Mochammad Zen Samsono Hadi, Dhuma Aziza Altarin and Mike Yuliana (Politeknik Elektronika Negeri Surabaya, Indonesia)	<b>591</b>

<b>1570941813</b>	<b>Internet of Things (IoT) for Humidity and Temperature at Telkom University Landmark Tower (TULT) and Forecasting Using Polynomial Regression</b>	<b>597</b>
	Fajar Brillyan Febriyanto and Hilal H. Nuha (Telkom University, Indonesia)	
<b>1570929189</b>	<b>Adaptive Countermeasure by Credibility to Defend SDN Controllers Against BlackNurse-SC Attacks</b>	<b>603</b>
	You-Chiun Wang (National Sun Yat-Sen University, Taiwan); Pin-Yuan Wang (National Sun Yat-sen University, Taiwan)	
<b>1570947259</b>	<b>Enhanced Face Recognition Intelligent System on Smart Home Security and Control with CNN</b>	<b>609</b>
	Satria Mandala (Universitas Telkom, Indonesia); Rifqi Ramadhan (Telkom University, Indonesia); Muhamad Irsan (Telkom University, Indonesia & Telkom University, Malaysia)	
<b>1570945201</b>	<b>Intelligent Bird Detection and Repeller System in Rice Field-Based Internet of Things</b>	<b>615</b>
	Mike Yuliana, Mochammad Zen Samsono Hadi and Ilyas Cahyaning Fitrah (Politeknik Elektronika Negeri Surabaya, Indonesia)	
<b>1570947248</b>	<b>Mobile Payment Authentication Using QR Codes Based on Combined DCT-DWT Digital Watermarking Scheme</b>	<b>622</b>
	Satria Mandala (Universitas Telkom, Indonesia); Romi Rukman (Telkom University, Indonesia); Muhamad Irsan (Telkom University, Indonesia & Telkom University, Malaysia)	
<b>1570955683</b>	<b>Comparison of Three Border Positioning (TBP) and Least Square Estimation (LSE) Algorithm Towards Indoor Positioning System (IPS)</b>	<b>629</b>
	Fahrudin Mukti Wibowo and Dimas Fanny Hebrasianto Permadi (Institut Teknologi Telkom Purwokerto, Indonesia)	
<b>1570957868</b>	<b>Optimizing Sensor Data Transmission in Collaborative Multi-Sensor Environments</b>	<b>635</b>
	Alessandro Buratto (Università Degli Studi di Padova, Italy); Hogler Tuwei (Sabanci University, Turkey); Leonardo Badia (Università degli Studi di Padova, Italy)	
<b>1570957876</b>	<b>Machine Learning Misclassification Within Status Update Optimization</b>	<b>640</b>
	Alessandro Buratto (Università Degli Studi di Padova, Italy); Begüm Yivli (Bogazici University, Turkey); Leonardo Badia (Università degli Studi di Padova, Italy)	
<b>1570957506</b>	<b>An Edge-based Fire Detection System for Real-Time IoT Applications</b>	<b>646</b>
	Huy-Tan Thai, Nhu-Y Tran-Van, Khanh-Hoi Le Minh and Le Kim-Hung (University of Information Technology, Vietnam)	

- 1570958651 Analysis of Blockchain and Interplanetary File System (IPFS) Utilization for Big Data Architecture Optimization 652**  
Asrul Paelori Ahmad (Hasanuddin University, Indonesia); Amil Ahmad Ilham and Ady Wahyudi Paundu (Universitas Hasanuddin, Indonesia)
- 1570957765 Forensic Analysis of Drone Malfunction Based on Location Data 658**  
Arda Surya Editya (Universitas Nahdlatul Ulama Sidoarjo, Indonesia); Tohari Ahmad (Institut Teknologi Sepuluh Nopember (ITS), Indonesia); Hudan Studiawan (Sepuluh Nopember Institute of Technology, Indonesia)
- 1570957866 Analysis Applicable Blockchain Technology Smart Education Services for Smart City in Indonesia 664**  
Sigit Anggraito (Researcher Telco Company & Telkom Indonesia, Indonesia); Rahman Parentio (Blockchain Researcher & Telkom Indonesia, Indonesia); Ratih Ruffianti (Senior Expert & PT TELKOM INDONESIA, Indonesia); Arief Hamdani Gunawan (Telkom Indonesia, Indonesia); Baskoro Nugroho (PT. Telkom Indonesia, Indonesia)
- 1570957919 An Effective Cluster Head Selection Algorithm using Machine Learning in IoNT 672**  
Omer Gulec (Pamukkale University, Turkey)
- 1570960535 Compact Smart Water Meter Development for Smart City 677**  
Luthfi Muhammad Ramadhan and Rina Astuti (Telkom University, Indonesia); Hanif Fakhurroja (National Research and Innovation Agency, Indonesia & Telkom University, Indonesia)
- 1570957522 Towards real-time Outdoor Air Quality Prediction using a Hybrid Model based on Internet of Things Devices 683**  
Nhu-Y Tran-Van, Huy-Tan Thai, Khanh-Hoi Le Minh and Le Kim-Hung (University of Information Technology, Vietnam)
- 1570958438 Easily Designing and Deploying AI enabled Network and Telecom services 689**  
Deven Panchal, Isilay Baran, Dan Musgrove and David Lu (AT&T, USA)