

2024 12th International Conference on Information and Communication Technology (ICoICT 2024)

**Bandung, Indonesia
7-8 August 2024**



**IEEE Catalog Number: CFP24ICZ-POD
ISBN: 979-8-3503-6344-9**

**Copyright © 2024 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:	CFP24ICZ-POD
ISBN (Print-On-Demand):	979-8-3503-6344-9
ISBN (Online):	979-8-3503-6343-2

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
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Enhancing Tourism Industry Insights: Leveraging LDA and KMeans for Topic Extraction in Indonesian OTAs' Reviews.....	1
<i>Laurentia Alyssa Castilani, Natasha Hartanti Winata, Nathania Christy Nugraha, Alexander Agung Santoso Gunawan, Karli Eka Setiawan, Lili Ayu Wulandari</i>	
HIV Inhibitory Activity Classification with Morgan Fingerprint and Integrated Graph-Based Deep Learning	8
<i>Jocelyn Verna Siswanto, Caroline Angelina Sunarya, Agnes Calista, Alexander Agung Santoso Gunawan, Karli Eka Setiawan</i>	
Analysis of Social Media Addiction: A Comparison of the Performance of Linear Regression and Random Forest Algorithms in Predicting User Behaviour	15
<i>Mardiyatun Mardiah, Kusnawi Kusnawi</i>	
Mapping AI-Based User Experience: A Taxonomical Study and Visualization	23
<i>Mutiara Dian Azzahra, Agus Maolana Hidayat, Mahir Pradana, Nurafni Rubiyanti, Arry Widodo</i>	
Exploring Creditworthiness Using Social Media Data and Ensemble Soft Voting	29
<i>Annisa Dwiyaniti Mulya, Andry Alamsyah</i>	
Jakarta Residents Thoughts on Air Pollution: Insights from YouTube Discussions	36
<i>Annisa Khusna Amalia, Annida Fitriyya, Fajar Kurniawan, Muhammad Erza Aminanto, Bahrul Ilmi Nasution, Yudhistira Nugraha, Juan Intan Kanggrawan</i>	
Enhancing SVM Performance for Time-Based Classification Prediction Through Feature Expansion: A Comparative Analysis with LSTM.....	43
<i>Fijar Yasmina Pritama, Sri Suryani Prasetyowati, Yuliant Sibaroni</i>	
Transforming Indonesian Geography Education Books into Knowledge Graphs Using ChatGPT LLMs.....	50
<i>Satria Siwi, Kemas Wiharja, Raihan Hafizh</i>	
Accurate Model for Arrhythmia Classification Using Hybrid “Attention-Based Convolutional Neural Network (ACNN) and Gated Recurrent Units (GRU)” with Explainable Artificial Intelligence (XAI)	57
<i>Arda Ardiyansyah, Satria Mandala</i>	
Study of the Ensemble Deep Learning Algorithm to Detect Image-Based Skin Cancer Melanoma and Basal Cell Carcinoma	65
<i>M. Nur Hikmal Afandi, Satria Mandala, Eva Krishna Sutedia</i>	
Firefly Algorithm Under-Sampling (FAUS) in Handling Imbalance Data on Drug Target Interaction Prediction	73
<i>Diya Namira Purba, Ghina Khoerunnisa, Isman Kurniawan</i>	
Development of an Emotion Detection System Based on Heart rate Using Support Vector Machine	79
<i>Hendy Setyawan, Rifki Wijaya, Gamma Kosala</i>	
Analysis of User Personal Data Security at E-Commerce Based on User Viewpoints.....	86
<i>Auliya Az-Zahra, Niken Dwi Wahyu Cahyani, Vera Suryani</i>	

Comparative Analysis Performance of Dynamic Routing OSPF and Segment Routing	93
<i>Muhamad Fikri Irawan, Muhammad Arief Nugroho, Ibnu Asror</i>	
Analysis of the Effective Turning-Off Methods for Computer Forensics	101
<i>Muhammad Naufal, Niken Dwi Wahyu Cahyani, Erwid Musthofa Jadied</i>	
Digital Forensics and Its Challenges in Investigating Online Gambling Cases.....	108
<i>Zahran Raihansyah Likumahua, Niken Dwi Wahyu Cahyani, Erwid Musthofa Jadied</i>	
Log Analyzer for English Proficiency Test Cheating Detection.....	115
<i>Qais Kalyana Lintang, Niken Dwi Wahyu Cahyani, Muhammad Arief Nugroho</i>	
Model-Based Testing of IoT Mobile Controller Smart Light Systems Using Extended Finite State Machine	123
<i>Afif Fajar Rayhan, Rosa Reska Riskiana, Dana Sulisty Kusumo, Ryan Oktaviandi Susilo Wibowo, Muhammad Rafi Andeo Praja</i>	
Multimodal Visual Features on Rhizome Image Classification Using Support Vector Machines	131
<i>Sania Kamelia Hamdani, Hisyam Fahmi, Muhammad Khudzaifah, Ari Kusumastuti, Mohammad Nafie Jauhari, Wina Permana Sari</i>	
Prediction of Fruit Freshness Level Using Convolutional Neural Network	137
<i>Muhammad Fadhil Fadhlurrahman, Tjokorda Agung Budi Wirayuda, Bedy Purnama</i>	
A Comparative Study: Facial Emotion Recognition by Using Deep Learning	144
<i>Gan Yip Fong, Goh Pey Yun, Choong Lee Ying, Tan Shing Chiang</i>	
Wheelchair Control Based on EOG Signals of Eye Blinks and Eye Glances Based on the Decision Tree Method	152
<i>Muhammad Ilhamdi Rusydi, Muhammad Abrar A Boestari, Riko Nofendra, Syafii, Agung Wahyu Setiawan, Minoru Sasaki</i>	
Semantic Segmentation for Fruit Freshness Identification Using U-Net.....	160
<i>Fariq Fadhlan Aradhana, Mahmud Dwi Sulistiyo, Ema Rachmawati, Sugondo Hadiyoso, Nik Mohd Zarif Hashim, Hiroshi Murase</i>	
Optimizing CNN Hyperparameters for Accurate Brain Computed Tomography Image Classification	166
<i>Ghina Khoerunnisa, Bintang Vieshe Mone, Medina Diani Nastiti, Mahmud Dwi Sulistiyo, Prasti Eko Yunanto</i>	
Process Mining to Improve Clinical Pathways in Breast Cancer Treatment Using the Indonesia Health Insurance Dataset.....	173
<i>Salwa Salsabila Mansur, Angelina Prima Kurniati, Eric Rojas, Adiwijaya</i>	
Availability Investigation of Green Open Space and Slum Neighborhoods Areas to Flood Potential in Jakarta Using Geospatial Analysis	181
<i>Nurkhanifah, Dwilaras Athina, Anggi Afifah Rahmi, Andy Ernesto, Muhammad Erza Aminanto, Bahrul Ilmi Nasution, Nur Laily Romadhotul Husna, Juan Intan Kanggrawan, Yudhistira Nugraha</i>	
Data Analysis of Patient Visits Using Linear Regression and Phyton Based on Regional Demographics and Age Range: A Case Study of Cisarua Psychiatric Hospital	187
<i>Titik Wihayanti, Hanif Fakhurroja, Ferlistian Rizki Mirza Wiguna, Muhammad Hanif Zahran, Muhammad Hibban Mikhail, Muharman Lubis</i>	

Improving Efficiency: A Lean Assessment of IT Department of Higher Education Institution (HEI) Using LAI LESAT	194
<i>Devi Pratami, Nor Hasrul Akhmal Bin Ngadiman, Muhd Ikmal Isyraf Mohd Maulana, Syed Ahmad Helmi Syed Hassan, Mochammad Doddy Al Fawzi</i>	
Recommending Higher Education Student Profile Using Knowledge Graph-Based Conversational Recommender System	202
<i>Muhammad Naufal Fazanadi, Kemas Rahmat Saleh Wiharja, Z. K. Abdurahman Baizal</i>	
Prediction of Cardiovascular Disease (CVD) in the Upcoming Year Using Tree-Based Ensemble Model	210
<i>Nur Ghaniaviyanto Ramadhan, Adiwijaya, Warih Maharani, Alfian Akbar Gozali</i>	
Tailored Virtual Environments for Facilitating School Transition in Children with Autism	217
<i>Yi Ling Ang, Hock Guan Goh, Chen Kang Lee, Kai Shuen Pheh, Seow Hui Saw</i>	
Complete Security Analysis on Event-Based Dynamic Protocol for Constrained IoT Device.....	224
<i>Rizka Reza Pahlevi, Hirokazu Hasegawa, Yukiko Yamaguchi, Hajime Shimada</i>	
Land Certificate Authenticity Using Blockchain Technology in Indonesia.....	236
<i>Mutiara Littewina, Andry Alamsyah, Eva Nurhazizah, Tanti Ruwani</i>	
Application for Selecting Legislative Candidates with Social Media Data that Influences Election Decisions	244
<i>Marastika Wicaksono Aji Bawono, Stevani Dwi Utomo, Andika Kristianto, Agus Fachrur Rozy, Rio Guntur Utomo, Hilal Hudan Nuha</i>	
Dispersion Compensation Fiber Bragg Grating Technique on Millimeter-Wave Based Radio Over Fiber Design for 5G Fronthaul	251
<i>Hanna Putri Shabira, Yus Natali, Catur Apriono</i>	
Health Asset Distribution System Development Using Blockchain Technology: A Case Study on Vaccine Distribution in Indonesia.....	257
<i>Sinung Suakanto, Nia Ambarsari, Zalina Fatima Azzahra, Syfa Nur Latifah, Nur Ichsan Utama, Edi Nuryatno</i>	
Comparative Study of Transfer Learning Models for Classification in Lung Cancer Research Based Compressive Sensing Image.....	264
<i>Andi Ainun Najib, Gelar Budiman, Indrarini Dyah Irawati</i>	
MNIST Image Classification with a Novel 2D-CIMA Method and Pareto Front Multi-Objective Grid Search.....	271
<i>Aji Gautama Putrada, Maman Abdurohman, Doan Perdana, Hilal Hudan Nuha</i>	
Exploiting Convex Hull in Perspective Rectification of Reflected and Tilted License Plate	277
<i>Muhamad Rafli Susanto, Rimba Whidiana Ciptasari, Gamma Kosala</i>	
Automatic Identification and Reconstruction 3D Image of the Rhinosinusitis Mucus.....	285
<i>Ondra Eka Putra, Sumijan, Muhammad Tajuddin</i>	
A Comparison of Machine Learning, Deep Learning, and Transformer Approaches for Amazon Product Reviews Sentiment Analysis	291
<i>Rahmat Hendrawan, Karimah Mutisari Hana, Angelina Prima Kurniati</i>	
Cryptocurrency Recommendation System Based on Investor Preferences Using Knowledge Graph Convolutional Network	298
<i>Nur Muhammad Luthfi, Kemas Rahmat Saleh Wiharja</i>	

Comparing LSTM Algorithm with Word Embedding: FastText and Word2Vec in Bahasa Batak-English Translation	306
<i>Nur Amalia Nasution, Erna Budhiarti Nababan, Herman Mawengkang</i>	
An Improved Jellyfish Image Classification Using the EfficientNetB3-Architected DCNN.....	314
<i>Gian Maxmillian Firdaus, Mahmud Dwi Sulistiyo, Nik Mohd Zarifie Hashim</i>	
Improving German Traffic Signs Classification Using Deep Convolutional Neural Networks	320
<i>Fahdi Labib, Fiyona Anmila Syamsir, Wa Ode Dwiki Bella Avista, Mahmud Dwi Sulistiyo</i>	
Projecting the Pattern of Adversarial Attack in Low Dimensional Space	326
<i>Jun Wei Tan, Pey Yun Goh, Shing Chiang Tan, Lee Ying Chong</i>	
Identification of Diabetic Retinopathy Using the Extraction Method on Fundus Images	333
<i>Surmayanti, Sumijan, Saiful Bukhori</i>	
Study of mMTC (massive Machine Type Communication) Modeling in the Automation Industry to Accelerate the Implementation of 5G Technology	341
<i>Syifa Quroto Aeni, Rina Pudji Astuti, Bambang Setia Nugroho</i>	
Analyzing the Performance of LoRa Using SX1278 and Dragino Module.....	347
<i>Tai Tin Toong, Sumendra Yogarayan, Siti Fatimah Abdul Razak, Ang Ee Mae, Afizan Azman, Kavila Rama</i>	
Comparative Analysis of HAProxy and Nginx Load Balancers in Mitigating User Datagram Protocol (UDP) Flood Attacks.....	354
<i>Faizal Wahyu Romadhon, Muhammad Azza Ulin Nuha, Yusuf Adiprawira, Riri Fitri Sari</i>	
Maintaining Mental Health Through Information Seeking and Sharing Behavior on Social Media.....	360
<i>Anggi Patricia Patel, Puspita Kencana Sari</i>	
Mafqodat: A Secure and Safe Mobile Application to Retrieve Lost Items in Educational Institutes	368
<i>Nasser Ibrahim Allheeb</i>	
Detection of Hate-Speech Text on Indonesian Twitter Social Media Using IndoBERTweet-BiLSTM-CNN.....	374
<i>Atalla Naufal Hakim, Yuliant Sibaroni, Sri Suryani Prasetyowati</i>	
Multiclassifier for Aspect-Based Sentiment Analysis on Indonesian Reviews of Kredit Pintar Online Lending App	382
<i>Nanda Yuniar, Aina Musdholifah</i>	
Implementation of the Runge- Kutta Method and SIR Model to Understand Covid-19 Spread in Padang City	390
<i>Muhammad Fachry Gunawan, Putu Harry Gunawan</i>	
Sentiment Analysis of Beauty Product Reviews Using the IndoBERT Method and Naive Bayes Classification	397
<i>Haidaruddin Muhammad Ramdhan, Mahendra Dwifabri Purbolaksono, Bunyamin Bunyamin</i>	
Early Detection of Heart Disease with Graph Neural Network.....	405
<i>Gunawan, Kemas Rahmat Saleh Wiharja, Hasmawati</i>	
Analysis of Social Media Addiction: A Comparison of the Performance of Linear Regression and Random Forest Algorithms in Predicting User Behaviour	411
<i>Mardiyatun Mardiah, Kusnawi Kusnawi</i>	

Fortifying the Enterprise Network: Proactive Strategies for Cyber Threat Hunting	419
<i>Arssy Hasyir Nursidiq, Charles Lim</i>	
Body Weight-Based Animal Laboratory Classification Utilizing Load Cell and IoT.....	425
<i>Giva Andriana Mutiara, Gita Indah Hapsari, Muhammad Rizqy Alfarisi, Periyadi, Lisda Meisaroh, Nadya Nanda Adisty Hadian</i>	
Detection of Cross-Site Scripting Attacks on Web Applications Using the LSTM Method.....	432
<i>Naufal Ahmad Nur Hakim, Vera Suryani, Muhamad Irsan</i>	
Reducing Eye-Tracking Model Size for Web Applications with Pruning Methods.....	438
<i>Muhammad Arief Nugroho, Maman Abdurohman, Bayu Erfianto, Mahmud Dwi Sulistiyo</i>	
Taxonomy-Based Regex for Memory Analysis on Facebook	446
<i>Andre Septian, Niken Dwi Wahyu Cahyani</i>	
Developing Smart Skin: A Force Sensor-Based Touch and Pressure Detector.....	454
<i>Muhammad Aulia Rifqi Zain, Giva Andriana Mutiara, Periyadi, Muhammad Rizqy Alfarisi, Angelica Sitorus, Raka Duta Adhira</i>	
Analyzing Sweep Integration in GitHub for AI-Augmented Issue Resolution.....	462
<i>Muhammad Mufid Utomo, Dana Sulisty Kusumo, Donni Richasdy</i>	
Detection of Auditory Ossicles Using Feature Extraction Method on CT Scan Images	470
<i>Yogi Wiyandra, Iskandar Fitri, Yuhandri</i>	
Detection of Pediatric Pneumonia Based on Chest X-Ray Image Using Extraction Method.....	478
<i>Eva Rianti, Iskandar Fitri, Sumijan</i>	
Identification of Lesions on Breast Based on Breast Ultrasonography Images Using Segmentation Method	486
<i>Silfia Andini, Sumijan, Iskandar Fitri</i>	
Classification of Diseases in Chili Plants Using the SVM Method: Development and Implementation.....	493
<i>Hanif Fakhurroja, Abdul Rofi Hidayatullah, Dita Pramesti, Nanang Ismail</i>	
Anomaly Detection Using LSTM-Based Deep Learning on Natural Gas Pipeline Operational Data.....	500
<i>Muhammad Rieza Fachrezi, Aditya Firman Ihsan, Widi Astuti</i>	
Experimental Study on Feature Selection Methods Applied to Type-2 Diabetes Microbiome Data.....	507
<i>Ee-Thiing Wong, Lee-Yeng Ong, Meng-Chew Leow, Joon-Liang Tan, Johnny-Stanley Wong, Xiu-Lin Gan</i>	
Impulse Buying in Gen Z: Impact of Website Quality, Sales Promotion, and Hedonic Shopping Through Positive Emotions	514
<i>Melinia Ester Liani Yade, Indrawati</i>	
Development of e-Procurement Datasets Based on e-Katalog 5.0 Services in Indonesia	521
<i>Soni Fajar Surya Gumilang, Adiwijaya, Z. K. A. Baizal, Agung Toto Wibowo, James Michael Fritz</i>	
Forecasting Server Resource Utilization: An Experimental Study with Long Short-Term Memory Model	528
<i>Jun-Jie Wong, Lee-Yeng Ong, Meng-Chew Leow, Ting-Wei Lee</i>	

Investigating Support Vector Machine for Gender Identification.....	535
<i>Asty Nabilah'Izzaturrahmah, Rizki Wulandari Muhammadia, Ryan Adeputra Sutopo, Mahmud Dwi Sulistiyo, Donni Richasdy</i>	
Efficient Flower Classification Using CNN with InceptionV3 Transfer Learning.....	543
<i>Fiky Anggara, Jubileu Da Assuncao Dias Ximenes, Mahmud Dwi Sulistiyo, Muhamad Fikry Saputra, Sugondo Hadiyoso</i>	
A Comparative Analysis of CNN and Vision Transformer Models for Smoker Identification.....	551
<i>Pratama Azmi Atmajaya, Muhammad Rizky Yusfian Yusuf, Nida Khairunnisa Kusumawardhani, Mahmud Dwi Sulistiyo, Aditya Firman Ihsan</i>	
Rice-Le: Optimized LeNet-5 Architecture for Rice Variety Classification	559
<i>Ketut Tangkas Anggrawisesa, Ema Rachmawati, Tjokorda Agung Budi Wirayuda</i>	
Fashion Parsing and Identification for E-Commerce Using Semantic Segmentation	566
<i>Muhammad Farhan Audianto, Mahmud Dwi Sulistiyo, Ema Rachmawati, Sugondo Hadiyoso</i>	
YOLOv9: Advancing Automated Brain Tumor Detection in MRI Scans	572
<i>Akbar Muhammad Prakoso, Abdul Wasiul Khair, Bedy Pumama</i>	
Smart Dashboard for Water Quality Monitoring and Predicting in Koi Fish Farming Using IoT and Sarima Modeling	578
<i>Tsania Rifqa Annisa, Dita Pramesti, Hanif Fakhurroja, Bevan Pradika Putranto, Fahreza Anggriantaka</i>	
Gradient Boosting, AdaBoost, and LightGBM for Emotion Recognition: A Comparative Analysis on Wearable Sensor Data.....	585
<i>Zikri Kholifah Nur, Rifki Wijaya, Gia Septiana Wulandari</i>	
Payment Gateway Implementation for Prepaid Water Meter Payment on Mobile Application	592
<i>Ario Kusuma Purboyo, Achmad Rozan Chaidir, Dita Pramesti, Hanif Fakhurroja</i>	

Author Index