2024 Ninth International Conference on Informatics and Computing (ICIC 2024)

Medan, Indonesia
24-25 October 2024

Pages 1-693

IEEE Catalog Number: CFP24G52-POD
ISBN: 979-8-3315-1761-8

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: CFP24G52-POD
ISBN (Print-On-Demand): 979-8-3315-1761-8
ISBN (Online): 979-8-3315-1760-1

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

Table of Contents

Air Quality Prediction Using Machine Learning: Systematic Literature Review 1
Muhamad Fuat Asnawi, Nur Fitriyanto, M. Agoeng Pamoengkas, Ema Utami and Hanif Al Fatta

Algorithm for Microclimate Optimalization for Black Soldier Fly IoT Insectarium: Bibliometric Analysis 6
Yunita Sartika Sari, Kusrini Kusrini, Ema Utami and Ferry Wahyu Wibowo

Systematic Literature Review on Technology-Based Fact Verification 12
Harya Gusdevi, Arief Setyanto, Kusrini Kusrini and Ema Utami

Household Waste Classification with Convolutional Neural Networks (CNN) 18
Anggi Herdiman, Dian Sa'Adillah Maylawati, Diena Rauda Ramdania, Wildan Budiawan Zulfikar, Muhammad Insan Al-Amin and Muhammad Ali Ramdhani

Object Detection Model for Indonesian Food Using Machine Learning 24
Derwin Suhartono, Nicholas Erlin Putra, Dita Raditya and Ferarida Amanda Sugianto

Compacting Language Model for Natural Language Understanding on English Datasets .. 29
Derwin Suhartono and Nicholaus Hendrik Jeremy

Performance Analysis of Kyber-DNA and RSA-Base64 Algorithms in Symmetric Key-Exchange Protocol 34
Bambang Harjito, Hafidh Muqsithanova Sukarno and Winarno Winarno

Explicit Content Classification In Indonesian Song Lyrics Using The LSTM-CNN Method 40
Andreyan Rizky Baskara, Mutia Maulida, Muhammad Tri Madya Lestiyanto, Yuslena Sari, Nurul Fathanah Mustamin and Eka Setya Wijaya

Indonesia's Thriving Film Industry: Horror & Drama Lead, But Can Innovation Outlast Saturation? 46
Teguh Prasandy, Ekky Imanjaya and Rosidah Rosidah

Implementation of Interpolation Techniques to Increase the Realism of Camera Movement in 3D Animation 51
Euis Nur Fitriani Dewi, Andi Nur Rachman, Acep Irham Gufroni, Syauqizaidan Khairan Khalaf and Nandhitta Aemy

Hijaiyah Letter Learning Education Game for Children With Cerebral Palsy Elementary School Level Using Dance Pad Media 57
Endah Sudarmilah, Ainayah Syifa Hendri, Devi Afriyantari Puspa Putri, Wiwien Dinar Pratisti, Fatah Yasin Alirsyadi and Ika Safitri Windiarti

Comparing the Accuracy of INA219, PZEM-004T, and MAX471 Sensors for Measuring Current and Voltage of Internet of Things-Based Solar Panels 65
Yuslena Sari, Nurul Fathanah Mustamin, Mutia Maulida, Andreyan Rizky Baskara, Eka Setya Wijaya, Muhammad Tommy Maulidyanto, Muhammad Alkaff and Muhammad Ariyadi

MicroRNA Expression Profiling in Colorectal Carcinoma: Identification and Validation of Novel Diagnostic, Prognostic and Predictive Biomarkers 71
Daniel Ryan Fugaha, Dennis Lunoto, Dhannyo Putta and Arli Aditya Parikesit

Enhancing Signature Authenticity Recognition Using CNN, PCA, and DAG: A Study on Accuracy Improvement and Parameter Refinement 75
Irma Yunita Nasution, Muhammad Zarlis and Maya Silvi Lydia

Algorithms and Approaches for the Vehicle Routing Problem with Pickup and Delivery (VRPPD): A Survey 80
Imam Muslem R, Mahyuddin K.M Nasution, Sutarman and Suherman

Exploring the Impact of Generative AI on Customer Engagement in Digital Marketing ... 86
Richard Wiputra, Muhamad Rafindio, Achmad Rizky Kurniawan and Akbar Raditya Rahardjo

Harnessing Exponential Moving Average for Time Series Forecasting: Predicting Website Traffic with XGBoost 91
Jhiro Faran and Agung Triayudi

Driving Digital Payment Adoption: Addressing Key Barriers for SMEs 97
Huberta Hillary, Aurelia Agatha and Iston Utama

Enhancing Product Quality in Manufacturing: Detecting Centrical Gear Parts Employing a Modified ResNet50 Architecture 103
Rija Nur Hijriyya, Rissa Ilmia Agustin, Jamaludin Indra, Patlisan Patlisan, Anis Fitri Nur Masruriyah and Ahmad Fauzi

Towards Modeling and Analyzing Transaction Data Stored as Directed Big Graphs in NoSQL DBMS for Products Recommendation 110
Veronica Moertini

Naïve Bayes Classification for Early Prediction of Diabetes Mellitus 116
Meliana Adinda Bella, Agung Triayudi and Rini Nuraini

Utilizing Machine Learning and Data Mining to Identify Diarrheal Diseases with the Decision Tree Method 121
Fuzy Yustika Manik, T. Henny Febriana Harumy, Dewi Sartika Br.Ginting, Suci Ramadani, Anandhini Medianty Nababan and Nur Wulan

Automatic Non-Destructive Classification of Banana Ripeness and Varieties Using Digital Imaging: A Systematic Literature Review 127
Siti Mutrofin and Chastine Fatichah

Integrating Security Testing in CI/CD Pipelines: Current Trends from Literature and Market 133
Rehmia Meliala, Charles Lim and Joseph Andreas

Exponential Moving Average for Time-Series Smoothing in Wind Speed Forecasting 139
Rudi Sutomo, Risma Yulistiani and Melissa Indah Fianty

Artificial Intelligence and Machine Learning Approaches for Flood Prediction in Medan City 144
Riah Ginting and Filbert Leonardo

The Dynamics of Self-Disclosure on Social Media: Analyzing the Impact of Benefits, Concerns, and Experiences 150
Dedy Syamsuar, Nelly Nelly and Irman Effendy

Quantifying Student Model Accuracy via Sample Size and Soft Label MSE: Insights into Label Quality 156
Aji Gautama Putrada, Ikke Dian Oktaviani, Mohamad Nurkamal Fauzan and Nur Alamsyah

Rule-based Sentiment Analysis and Evaluation using Twitter Data in The 2024 Indonesian Presidential Election 162
Vitri Tundjungsari, Gilang Romadhanu Tartila, Nindyo Artha Dewantara Wardhana, Ryan Tri Pamungkas, Muhammad Fahtur Rosi and Excel Fathan Breviano

DnD Top-K Query Implementation for University Department Recommendation 168
Cahya Damarjati, Galang Wicaksana, Slamet Suripto, Muhammad Arief Previasakti Suradi, Asroni and Slamet Riyadi

Attribute Weighting Scheme for Distance Calculation: A Review Study in Clustering 174
Tora Fahrudin, Renny Sukawati, Tedi Gunawan and Pramuko Aji

Performance Analysis of GloVe Word Embedding for Batak – English Translation 180
Andika Syahputra, Erna Budhiarti Nababan and Herman Mawengkang

Development of an Active Contour Method Based on Contrast Features to Detect Keratitis in the Cornea 186
Wahyu Saptha Negoro, Sumijan Sumijan and Saiful Bukhori

The Role of Convolutional Neural Networks (CNNs) in Forecasting Stock Prices of Green Companies: An Analysis of Time-Step Configurations 192
Nono Heryana, Nugraha Nugraha and Rini Mayasari

Hair Removal Methods in Skin Cancer Images Using Black Top Hat Transform and Wavelet Transform 199
Dede Herman Suryana, Achmad Benny Mutiara, Wahyu Kusuma Raharja and Desti Riminarsih

Classification of Tire Wear Pattern Using Gabor Feature Extraction and Probabilistic Neural Networks 204
Dedy Chasan Aflah Muthohhar, R. Rizal Isnanto and Aris Triwiyatno

Data Warehouse Model for Outcome-based Education Curriculum based on Labeled Property Graph 210
Adi Wibowo, Amelia Syatriadi and Liliana Liliana

User Experience Analysis of the Integrated Talent Management System Application to Enhance Employee Career Aspirations Using the UEQ Method 216
Dyah Shafitri, Mohammad Alif Hidayatullah, Monica Lluwinsky and Riyan Leandros

Estimation Trend in Agile Software Development 222
Irdina Wanda Syahputri and Eko K. Budiardjo

Online Grocery Marketplace Users' Continuance Intention in Indonesia: The Influence of Customer Satisfaction and Perceived Usefulness 228
Darell Hendry, Putu Wuri Handayani and Nabila Clydea Harahap

Factors Affecting Stunting Using Automatic Content Analysis: The Computer Framework Approach 234
Ahmad Dedi Jubaedi, Nova Rijati, Ahmad Zainul Fanani, Pulung Nurtantio Andono and Zainal A Hasibuan

Hi-Care: Smart Virtual Assistant System Architecture with Domain-Driven Design towards Improving Quality of Life 240
Rianto Rianto, Erna Haerani, Alam Rahmatulloh, Rohmat Gunawan, Randi Rizal and Irfan Darmawan

Utilization of Augmented Reality Technology in Campus Promotion Using the Marker Based Tracking Method 246
Heny Pratiwi, Muhammad Ibnu Sa'Ad and Oktadius Giantoro

Comparative Analysis of AutoGluon and Bayesian Optimized LSTM for Long-Term Temperature Forecasting 253
Hanifullah Hafidz Arrizal, Munawar Munawar, Aditya Mulya, Dyah Prihartini Djenal, Muchamad Rizqy Nugraha, Marzuki Sinambela, Anton Widodo and Diah Aryani

Blockchain Implementation in Healthcare: A Systematic Literature Analysis Using PRISMA Method 259
Farid Try Putra Imran, Richard Wiputra and Hendry Hartono

Analysis Comparison of Hard and Soft Voting Ensemble Model for Sentiment Analysis on IMDB Movie Reviews 265
Nur Ghaniaviyanto Ramadhan and Gita Fadila Fitriana

The Carbon Dioxide Filtration System Using Chlorella Pyrenoidosa Microalgae IoT-based for Air Quality Improvement 269
Munawar, Tonny Wahyu Aji, Nizirwan Anwar, Ahmad Meijlan Yasir, Aviv Maghridlo, Marzuki Sinambela, Anton Widodo, Muchamad Rizqy Nugraha and Putri Chairuniza

An Extended CRITIC Algorithm Based on Spherical Fuzzy Sets to Determine the Objective Weights of Decision-Makers 274
Irvanizam Irvanizam, Mahyuddin K. M. Nasution, Tulus Tulus and Erna Budhiarti Nababan

Intrusion Detection System Using Convolution Neural Network with Feature Selection for Multiclass Classification 280
Raisa Imani Sani and M. Agni Catur Bhakti

Analysis of Service Quality Factors Affecting Patient Satisfaction in mHealth Teleconsultation 286
Oristania Wahyu Nabasya, Putu Wuri Handayani and Nabila Clydea Harahap

Agent Performance Comparison of the Q-Learning Algorithm and SARSA Algorithm in Javanese Chess Game 292
Muhammad Alvin Riady, Suyanto Suyanto and Poltak Sihombing

Backpropagation-Based Prediction of On-Time Graduation in Informatics Engineering at Palangka Raya University 298
Santi, Ariesta Lestari and Novera Kristianti

Comparative Study on Neural Networks Models for Bitcoin Price Prediction Using Technical Indicators and Bayesian Optimization 304
Muhammad Hamdani, Silvia Ratna, M. Muflih, Haldi Budiman, Usman Syapotro and M. Rezqy Noor Ridha

Airfare Fluctuation Analysis with Event and Sentiment Features by Stacking Ensemble Model 309
Nur Alamsyah, Saparudin Saparudin and Angelina Prima Kurniati

Propose Design Of Merapi Volcano Eruption Prediction Using Hybrid Time Series And Machine Learning 316
Fridy Mandita, Ahmad Ashari, Moh. Edi Wibowo and Wiwit Suryanto

Application of Deep Learning for Mobile-Based Herbal Leaf Diseases Classification Using CNN-Based Ensemble Learning 322
Ketut Dionanda Sutrisna, Ni Luh Wiwik Sri Rahayu Ginantra, I Putu Agus Eka Darma Udayana and Christina Purnama Yanti

Performance Evaluation of Ensemble Learning Stacking in Rice Price Prediction 327
Putu Dian Maharani Bintang, Ni Luh Wiwik Sri Rahayu Ginantra, Ida Bagus Ary Indra Iswara and Ni Made Mila Rosa Desmayani

Semantic Segmentation of Balinese Dance Agem With VGG19-UNET Method 333
I Gede Adnyana Putra, Ni Luh Wiwik Sri Rahayu Ginantra, I Putu Dedy Sandana, I Gusti Agung Indrawan and I Putu Agus Eka Darma Udayana

Multi Fuzzy Criteria based Decision Model for Presidential Election in Indonesia 338
Ditdit Nugeraha Utama and Bagas Rizky Ramadhan

Enhancing Weed and Crop Classification Using Hybrid Visual Features 343
Faisal Dharma Adhinata, Wahyono Wahyono and Raden Sumiharto

Convolutional Neural Networks and TensorFlow-Based Enhance Correction for Color Visual Deficiency (CVD) Impaired 349
Muhammad Al-Husaini, Yani Siti Nurpazrin, Randi Rizal and Hen Hen Lukmana

CNN-Based Image Processing for Recognizing Balinese Characters on Palm Leaves 355
I Kadek Adi Rian Nugraha, Ni Luh Wiwik Sri Rahayu Ginantra, I Komang Arya Ganda Wiguna and I Gusti Agung Indrawan

A Comparative Algorithm Study Using Titanic Dataset for Best Accurate Prediction 360
Nina Kurnia Hikmawati, Yudi Ramdhani and Doni Purnama Alamsyah

Enhancing Sales Success in B2B Negotiations Using the C4.5 Decision Tree Algorithm 366
Supangat Supangat, Bartolomeus Wisnu and Mochamad Yovi Fatchur Rochman

The Role of Edge Detection in Improving Convolutional Neural Network Accuracy and Robustness: An Overview 372
Tatya Atyanti Paramastri, Achmad Benny Mutiara, Emy Haryatmi and Achmad Fahrurozi

Enhancing Road Segmentation in Satellite Images via Double U-Net with Advanced Pre-Processing 377
Raden Bagus Muhammad Adryanputra Adhy Wijaya and Wahyono Wahyono

SENSEI: A Novel Architecture of Deep Multi-Task Neural Network for Analyzing E-learning Lecturers' and Students' Satisfaction 383
Sulis Sandiwarno, Dana Indra Sensuse, Harry Budi Santoso, Deden Sumirat Hidayat and Muhammad Mishbah

Artificial Intelligence Initiative in Taiwan: A Systematic Literature Review 389
Nurwahyu Alamsyah

Prototype of Library Noise Detection Tool with IoT-based ESP32 and Blynk 394
Sumardiono Sumardiono, Angga Rahmat Saputra and Solikin Solikin

Fine-Tuning Large Language Model (LLM) to Answer Basic Questions for Prospective New Students at Syiah Kuala University Using the Retrieval-Augmented Generation (RAG) Method 401
Hary Rachmat, Hammam Riza and Taufik Fuadi Abidin

Improving ShuffleNet and SqueezeNet Using Residual Network for Small Device 406
Herlawati Herlawati, Ben Rahman, Rahmadya Trias Handayanto, Prima Dina Atika, Dani Yusuf, Maimunah Maimunah, Endang Retnoningsih, Syahbaniar Rofiah and Didik Setiyadi

Hybrid Algorithm Using CNN and LSTM to Improve Performance in Skin Lesion Image Classification 412
Indila Riskika Putri, Amalia Amalia and Taufik Fuadi Abidin

An Analysis of Critical Failure Factors in Silo Data Management: Indonesian Bus Company 418
Izdihar Wanda Syahputra and Arif Wibisono

Optimizing Student Performance with GridSearchCV Using Random Forest Classifier Method to Enhance Learning Outcome Prediction 422
Riza Arifudin, Rizal Isnanto and Budi Warsito

Establishing a Sustainable Cybersecurity Ecosystem in Indonesia: A Global Comparison of Policies and Initiatives 427
Ahmad Fathurrozi, Tri Ginanjar Laksana, Achmad Noe'Man, Prio Kustanto, Mayadi Mayadi, Tyastuti Sri Lestari, Wowon Priatna, Herlawati Herlawati and Rahmadya Trias Handayanto

Drone Spray For Stem Base Rot Disease Detection In Oil Palm Plants 433
Inna Novianty, Gema Parasti Mindara, Ade Astri Muliasari, Faldiena Marcelita, Lathifunnisa Fathonah and Muhammad Achirul Nanda

Applying the Unified Theory of Acceptance and Use of Technology to Ride-Hailing Services in Indonesia: The Role of Social Influence 443
Admaja Dwi Herlambang, Melin Febriani and Aditya Rachmadi

CNN Models for Analysis and Detection Ischemic Stroke Based on MRI Image 451
I Putu Gede Suangga Wijanatha, Ni Luh Wiwik Sri Rahayu Ginantra, Christina Purnama Yanti and I Komang Arya Ganda Wiguna

The Readiness Level of Universitas Pendidikan Ganesha in Implementing Green IT Referring to The G-Readiness Framework 457
Gede Rasben Dantes, I Made Ardwi Pradnyana and Made Dwi Arthajaya

Owasp Zap vs Arachni: Which One is Better in Vulnerability Assesment? 463
Achmad Muhaimin Irzan and Endang Sulistiyani

Clustering of User Reviews Using K-Means: A Case Study of Shopee Marketplace 469
Slamet Riyadi, Alfiansah Erik Sugiarto, Naufal Rozan and Annisa Divayu Andriyani

Does Motivation Relate to Player Experience? An Empirical Study on Indonesian MOBA Gamers 475
Flourensia Sapty Rahayu

Performance Analysis Clustering Using Representatives (CURE) Algorithm on Toddler Stunting Data 480
Dewi Sartika Br Ginting

Molecular Docking-Based Digital Screening for Dengue Virus NS2B-NS3pro Inhibitors 486
Venia Restreva Danestiara, Marwondo Marwondo, Taufik Abdul Aziz and Iqbal Ismayadi

Advancing Intellectual Property Rights through Digital Knowledge Collaboration Model: A Soft Systems Methodology Approach 492
Novi Fitriasari, Dana Sensuse, Deden Hidayat and Sofiyanti Indriasari

Web-Based Quotation and Invoice Information System Using the SCRUM Method 498
Fitri Shafirawati, Mardi Yudhi Putra, Nurul Aliyah, Siti Nurul Fatimah, Aditya Ristanto and Solikin Solikin

Implementation of the Convolutional Neural Network (CNN) Method to Detect Traffic Congestion and Determine the Best Route Using the Heuristic Search Algorithm on Palembang City Highways 504
Sukemi Sukemi, Ahmad Fali Oklilas and Haris Putra Ramadhan

Automatic KWh Recording Using OCR and Raspberry Pi 3 with Firebase Cloud Database 513
Nenny Anggraini, Muhammad Zhafran Athofani, Nashrul Hakiem and Luh Kesuma Wardhani

Logo Detection Plagiarism Using Generative Adversarial Network 519
Rizky Rivanni, Elviawaty Muisa Zamzami and Rahmat Widia Sembiring

Indonesian Sign Language (SIBI) Detection: A Landmark-Based Approach with Scikit-Learn Utilizing Random Forest Classifier 523
Agung Rachmat Raharja, Vito Hafizh Cahaya Putra, Ghanim Kanugrahan and Cuk Tho

Co-Sense: Internet of Things Multi-Sensor Vehicle Trip Data Recorder 529
Muhammad Daffa Adrian Sitorus, Maya Fitria, T. Muhammad Caesar Maulana, Ahmad Mufadhdhal Alkifani, Humaira and Rahmad Dawood

Design a Simulation Application for a Disaster Based on Power Levels Using Augmented Reality Technology 535
Fendi Aji Purnomo, Eko Harry Pratisto, Taufiqurrakhman Nur Hidayat, Yudho Yudhanto, Fathul Nisa Aini and Ditya Galassepda Putri

Sentiment Analysis of Distance Learning During the Covid-19 Pandemic Using Particle Swarm Optimization (PSO) and Naïve Bayes Methods 541
Rahmi Nur Shofa, Andi Nur Rachman, Euis Nur Fitriani Dewi, Muhammad Adi Khairul Anshary, Adrian Maulana Fauzi and Yolanda Yolanda

Early Detection of Heart Disease Using Gradient Boosting on Imbalanced Data 546
Slamet Riyadi, Fitri Alfiana, Muhammad Iqbal Al-Habib, Cahya Damarjati and Erika Loniza

Aspect-Based Sentiment Analysis System on Social Media X for Electric Vehicles (EV) in Indonesia Using IndoBERT and Machine Learning 552
Adinda Putri Audyna, Rizka Wakhidatus Sholikah, Raden Venantius Hari Ginardi and Rowell M. Hernandez

Classification of Lung Disease with Convolutional Neural Network Method on X-ray Image 558
Andi Nur Rachman, Nabil Ramadhan, Irani Hoeronis, Euis Nur Fitriani Dewi and Acep Irham Gufroni

Optimizing K-Nearest Neighbor Values Using The Elbow Method 565
Bobby Irawan, Fahmi Fahmi and Elviawaty Muisa Zamzami

Influence of Feature Extraction Methods using Neighborhood Component Analysis (NCA) to Improve Classification Performance for Hepatitis C Disease 569
Christiella Abinosy Setiawan, Maria Susan Anggreainy, Nora Fitriawati, Raymasterio Vera Lucky, Renatha Dewi Sabrina, Steven Matthew and Vierdaria Wijayanti

The Effect of CLAHE preprocessing on stitching beach panorama images with lighting variations 574
Kamil Malik, Nanik Suciati and Darlis Herumurti

The Effect of Data Augmentation on the Accuracy of Fish Species Classification Using Deep Learning 579
Ellya Helmud, Catur Edi Widodo and Oky Dwi Nurhayati

Influence of Technology Adoption and Internet Security on Satisfaction and Investment Decision Quality 586
Moke Asri, Marviola Hardini, Dwi Apriliasari, Henderi Henderi and Untung Rahardja

Optimizing Churn Prediction Models: A Data Imbalance Handling Strategy for Enhanced Accuracy 592
Erna Hikmawati, Heru Nugroho and Maria Irmina Prasetiyowati

Real-time Web Application Firewall Monitoring uses the OWASP CRS Framework 599
Irfan Darmawan, Afan Nuridwan, Alam Rahmatulloh, Rohmat Gunawan and Randi Rizal

Traffic Accident Detection Analysis Using YOLOv9 Algorithm 605
Steven Harun Samba, Inggit Yeira Budi Agranata, Laura Tsanaullailla and Faqih Hamami

Cross Reference Injection for Proof of Ownership Portable Document Format 611
Rohmat Gunawan, Irfan Darmawan and Alam Rahmatulloh

Towards Offline GenAI Fine Tuning Model with LoRA Derivatives for IoT Edge Server . . . 615
Pujianto Yugopuspito, I Made Murwantara, Evan Kurnia Alim, Wiputra Cendana and Aditya Mitra

Science and Technology Index (SINTA) Data Acquisition Model with Web Scraping Method 621
Irfan Darmawan, Alam Rahmatulloh and Rohmat Gunawan

Support Vector Machine Parameters Optimization using Firefly Algorithm for Mental Health Prediction 626
Alam Rahmatulloh, Akmal Taufiq, Irfan Darmawan, Erna Haerani and Randi Rizal

IoT-Based Air Quality Monitoring System Design and Development Using ESP32 632
Marzuki Sinambela, Munawar, Muchamad Rizqy Nugraha, Anton Widodo, Joko Sugi Purnomo Kadir, Ahmad Meijlan Yasir and Tonny Wahyu Aji

Development and Evaluation of a Virtual Lab Application for Enhancing High School Students' Understanding of Chemical Reactions 638
Erna Hikmawati, Hariandi Maulid, Alfian Akbar Gozali, Aisyah Fadzila Hani, Fawwaz Maulana and Amru Abid Zakly

Utilizing Digital Information for Personalized Cholesterol Management 644
Erwin Halim, Steven Steven, Aurellia Nurfadhila Sembada Putri, Davine Dorothy Halim and Dedy Syamsuar

MKG Robotic Ship: IoT-Based Smart Autonomous Surface Vehicle Type Robotic Ship Innovation in Oceanographic Parameters Measurement and Early Tsunami Detection 650
Anton Widodo, Riko, Dimas Aditya Wiranata, Muchammad Rizqy Nugraha, Pandu Hadi Wijoyo, Adilaksa Kharisma, Muhammad Ramdhani Setyo Nugroho, Munawar and Marzuki Sinambela

Rainfall Prediction in Central Java Based on Comperatif Analysis of LSTM and BiLSTM 657
Dyah Prihartini Djenal, Hanifullah Hafidz Arrizal, Eva Darnila, Munawar, Nelly Florida Riama, Muchamad Rizqy Nugraha, Anton Widodo, Shindyko Wibowo and Marzuki Sinambela

SASy: Screenshot Analysis System 663
Lorena Figueiredo, Jonathan Gomes, Thiago Gavanski, Rene Almeida, Dinara Araujo, Welton Seabra, Andre Cruz and Erick Bezerra

IoT-based System for The Stroke Survivor Feature Needs: A Qualitative Analysis 669
Winny Setyonugroho, Sentagi Sesotya Utami, Moch Zihad Islami, Daffa Ardi Amanu, Itamar Ajeng Kirana and Attar Husna Fathiya

Unveiling Factors Affecting Intentions to Use ChatGPT: Perspectives from Indonesian Higher Education Students 676
Zaenal Abidin, Kongkiti Phusavat, Riza Arifudin and Endang Sugiharti

Advancing Prediction of Rice Production in Sumatra: Utilizing eXtreme Gradient Boosting Algorithm for Accurate Forecasts 682
Reviana Siti Mardiah, Adang Suhendra, Fitrianingsih Fitrianingsih and Dian Kemala Putri

Leveraging Jaro-Winkler for Enhanced Nazief-Adriani Banjar Text Stemming 687
Muharir Muharir, Edi Noersasongko, Muljono Muljono, Abdul Syukur and Muslihul Aqqad

The Implementation of Ensemble Stacking Method on Convolutional Neural Network Model for Tomato Plant Disease Classification 694
Dafa Arif Nurkholis, Hindayati Mustafidah and Agung Purwo Wicaksono

Enhancing Information Accessibility for Visually Impaired Users through BART Text Summarization and Text-to-Speech Integration in a Flutter-based Mobile Application 699
Dary Ramadhan Abdussalam, Faqih Hamami and Riska Yanu Fa'Rifah

A Comparative Study of Machine Learning Algorithms for Graduation Prediction in Electrical and Informatics Engineering Department 705
Azhar Ahmad Smaragdina, Didik Dwi Prasetya, Wahyu Nur Hidayat, Gulsun Kurubacak Cakir, Utomo Pujianto and Putrinda Inayatul Maula

Knowledge Management of Smart Learning System with Cognitive Level for Higher Education 711
Endina Putri Purwandari and Endang Widi Winarni

2.5-Dimensional Animation as an Interactive Educational Strategy in Bullying Learning for Junior High School Students 717
Noorlela Marcheta, Malisa Huzaifa, Roland Dwi Cahya and Iik Muhamad Malik Matin

Prediction Model of Indigofera Forage Production Using Regression Machine Learning Method 722
Tri Yani Akhirina, Sri Nurdiati, Wisnu Ananta Kusuma and Luki Abdullah

Comparison of Optimization Using Latent Semantic Analysis and Latent Dirichlet Allocation On Aspect-Based Sentiment Analysis of Online Food Delivery (OFD) 729
Wiky Hendra, Monika Johan, Santo Wijaya and Johan Setiawan

Effective Feature Selection Methods for Vaginal Birth After Cesarean Data 735
Prihandoko Prihandoko, Achmad Fahrurozi, Desti Riminarsih and Kasyafiya Jayanti

Comparison of Feature Transformation and Missing Value Imputation Methods for Nutrient-Based Food Group Classification 739
Fatma Indriani, Dwi Kartini, Dodon Turianto Nugrahadi and Triando Hamonangan Saragih

Development of an IoT System for Waste Management Based on Machine Learning with an Innovative Model 746
Dimas Akmarul Putera, Ansarullah Lawi, Sri Handayani, Zainal Arifin Hasibuan, Filmada Ocky Saputra, Sholikun Sholikun and Alvendo Wahyu Aranski

Classification of Cardiovascular Disease Patients Using Feature Selection and K-Nearest Neighbor 755
Triyanna Widiyaningtyas, Aryo Bimo, Denny Widhiyanuriyawan and Muhammad Anandha Fritama

Classification of Civil Court Decision Documents Using Legal BERT and IndoLegal-BERT 761
Christian Sri Kusuma Aditya, Niko Silabest, Galih Wasis Wicaksono and Nur Putri Hidayah

Traffic Sign Recognition Using Deep Learning with Interactive Voice Output for Drivers .. 767
Yunita Yulianda, Alim Misbullah, Laina Farsiah, Husaini Husaini, Kikye Martiwi Sukiakhy and Junidar Junidar

Evaluation Models of Enterprise Architecture Implementation for Digital Transformation :A Systematic Literatur Review 772
Muhaemin Emin, Eko K. Budiardjo and Ryan Randy Suryono

Prediction Model for the Success of an IT Project Based on the Team Development Competency Index Using the Random Forest Method 783
Gredy Ramadhany, Tien Fabrianti Kusumasari and Sinung Suakanto

Accessing Gender Bias in Speech Processing Using Machine Learning and Deep Learning with Gender Balanced Audio Deepfake Dataset 789
Tricia Estella, Amalia Zahra and Wai-Keung Fung

Implementation of Augmented Reality For Performance Learning Media Elementary School: Usability Approach 795
Rizqy Amalia Putri, Muharman Lubis, Hanif Fakhrurroja and Elfi Yuliani Rochmah

Predicting Mortality in Heart Failure Patients: A Comparative Study of Decision Tree C4.5 and Naïve Bayes Algorithms 800
Didik Dwi Prasetya, Muhammad Arviansyah, Muhammad Hidayat, Heni Sari and Azlan Zain

Transforming Patient Satisfaction: Integrating Enterprise Architecture in Healthcare Delivery 804
Putu Priyanka Sonia Dewi, Muharman Lubis and Lukman Abdurrahman

Design Approach in Educational Game Applications: Enhancing User Satisfaction 810
Naqliya Arum Permata, Muharman Lubis and Ilham Perdana

Factors Affecting User Intention to Switch to a Digital Bank Using the Push-Pull Mooring Theory 816
Gustanto Putra Aditya, Yonathan Dri Handarkho and Suyoto Suyoto

Time Series Shapelets Classification Method for Predicting Global Temperature Anomalies 822
Wahyuddin S, Ahmad Saikhu and Agus Budi Raharjo

Development of Interactive Learning Media Based on Bloom's Taxonomy to Increase Student Engagement and Understanding 827
Asha Sembiring, Muharman Lubis, Ilham Perdana and Yumna Zahran Ramadhan

Aspect Based Sentiment Analysis on Amazon Book Review Using DistilBERT 833
Feliks Victor Parningotan Samosir and Ferdynand Ferdynand

Building an Object Detection Model for Defects in Printed Circuit Boards using Convolutional Neural Network 839
Khairul Umam Albi, Alim Misbullah, Husaini Husaini, Rasudin Rasudin, Laina Farsiah and Zahnur Zahnur

Pediatric Pneumonia Detection in Chest X-ray Images using Convolutional Neural Network 845
Widi Astuti, Aditya Firman Ihsan and Adiwijaya Adiwijaya

E²DH: Enhanced Easy Design Handoff 851
Jordan Queiroz, Mateus Arbex, Thiago Falcão, Phillip Furtado, Fabrício Soares, Tafarel Souza, Barbara Silva and Erick Bezerra

Immersive Learning in Javanese Script: Evaluating User Experience through Virtual Reality and the System Usability Scale 857
Taufiqurrakhman Nur Hidayat, Muhammad Taufiq Alfathurrahman, Yudho Yudhanto, Fendi Aji Purnomo, Eko Harry Pratisto and Ovide Decroly Wisnu Ardhi

Implementation Of SSD MobileNet V2 FPNLite For Website-Based Indonesian Sign Language Recognition 862
Juyus Muhammad Adinulhaq, Muhammad Sam'An, Muhammad Munsarif, Safuan Safuan, Dhendra Maruto and Rima Dias Ramadhani

A Whale Optimization Algorithm based Solver for No-wait Flexible Flow Shop Scheduling Problems 866
Stanley Jonathan, Cecilia Esti Nugraheni and Luciana Abednego

IoT-Based Automated Environmental Control System for Oyster Mushroom Cultivation Using ESP8266 and Telegram Bot 872
Evi Triandini, Padma Nyoman Crisnapati, Kevin Afrianto, Bayu Agus Irawan and Azman Maricar

Addressing the Segmentation of Overlapping Plankton using Compact Seg-Unet 878
Susi Eva Maria Purba, Aygrace Hutagaol, Gabriella Panjaitan and Rosni Lumbantoruan

Threats, Risks, and Mitigations in Cloud Computing Environment 887
Nur Chalik Azhar, Muhammad Zarlis, Yulyani Arifin and Benfano Soewito

Indonesian Food Image Classification with Grad-CAM Visualization using High Performance Computing DGX A100 893
Lingga Rohadyan, Eri Prasetyo Wibowo, Setia Wirawan and Ana Kurniawati

Design Of Car Parking Availability and Capacity System Using ESP32-Cam and NodeMCU ESP8266 899
Arya Dwitama, Eri Prasetyo Wibowo, Nur Sultan Salahuddin and Missa Lamsani

Quantum Computing in Project Management: Transforming Risk Assessment and Decision-Making 906
Richardus Eko Indrajit

Evaluating the Performance of Architectural Patterns in Web Application Development .. 912
Ahmad Yusuf, Rahimi Fitri, Agus Setiyo Budi Nugroho and Abdul Rozaq

Salary Prediction with Ensemble Regressor Model 918
Howan Anderson, Andreas L. Wiranata, Henry Lucky and Meiliana

Web-Based Intelligent Technology for Diagnosing Rice Plant Diseases to Enhance Food Security in South Kalimantan 924
Christopher Arya Dewabrata Hartono, Dwiki Parulian Sinaga, Esto Triramdani Nurlustiawan and Teguh Prasandy

Boosting Recruitment Success with Tech-Driven Solutions: Evaluating the Impact of Applicant Tracking Systems (ATS) on Efficiency and Organizational Success 931
Rifma Dwi Leony, Sisco Mataheru, Kevin Sanjay Sirait and Teguh Prasandy

Enhancing Student Dropout Prediction Using Chi-Square, SMOTE-ENN, and Hyperparameter Tuning of Random Forest 936
Andri Andri, Roni Yunis, Djoni Djoni, Ng Poi Wong, Robin Robin and Darwin Darwin

A survey on Multi-Omics Analysis for Breast Cancer Classification and Precision Medicine 942
Fenty Eka Muzayyana Agustin, Wisnu Ananta Kusuma, Sony Hartono Wijaya and Yudhi Nugraha

Bibliometric Insights into Machine Learning for Market Forecasting: Advances in Predictive Financial Analytics . . . 949
Lidya Agustine Senduk, Untung Rahardja, Richard Andre Sunarjo, Po Abas Sunarya and Mardiana Mardiana

User Experience Analysis of Sports Applications Using Usability Testing and the System Usability Scale (SUS) . . . 955
Calysta Ivanna Ekklesia, Purnama Florentina, Saur Parlindungan Situmeang and Sunardi Sunardi

A Novel Forecasting Model for Islamic Stock Prices: Hybrid ARIMA LSTM with Linear Regression OLS Techniques . . . 962
Aris Gunaryati, Achmad Benny Mutiara and Sulistyo Puspitodjati

Retrieval-Augmented Generation (RAG) Large Language Model For Educational Chatbot 968
Leo Danuarta, Viny Christanti Mawardi and Viciano Lee

Influence of Minimum Support on the Performance of the Apriori Algorithm . . . 974
Jasman Pardede and Aditia Rafli Ilyasa

Performance Evaluation of a Chatbot with Retrieval Augmented Generation and GPT-4 Model for Taharah Domain Based On Four Schools of Islamic Jurisprudential . . . 980
Nurhayati Nurhayati, Royyan Abdurrohman, Khodijah Hulliyah and Dewi Khairani

Tampered Text Image Detection: Integrating Semantic Segmentation Using Deep Learning and Discrete Cosine Transform (DCT) in Web Applications . . . 986
Alexander A S Gunawan, Edbert Felix Fangasadha and Steffi Soeroredjo

The Impact of Authoring Tools-Based Interactive Media Implementation on Student Learning Motivation . . . 993
Rangga Firdaus

Monitoring Student Cheating Activities using YOLOv8 . . . 1001
Asep Taufik Muharram, Mera Kartika Delimayanti and Rizki Elisa Nalawati

Vision Transformer Algorithm for Plant Disease Detection: A Systematic Literature Review . . . 1006
Reza al Husna, Lintang Yuniar Banowosari, Tubagus Maulana Kusuma and Tri Handhika

Experiment on Pinhole Model Distance Calculation for Drone Navigation . . . 1011
Dany Eka Saputra

Decision Support System for Selecting a Digital Marketing Model for Indonesian Sustainable Marine Tourism with the SWOT-AHP Approach . . . 1016
Fathorrozi Ariyanto, Doni Ferdiansyah, Aang Darmawan, Endang Wahyurini, Eko Daryanto and Zaiful Muqaddas

Implementation of the K-Means, K-Medoids, and Mini Batch K-Means Algorithms on the Classification of Natural Disaster Prone Areas in Indonesia . . . 1023
Chandro Pardede, Agusti Frananda Alfonsus Naibaho and Frans Sitohang

A Comparison of Random Forest and SVM Classification Algorithms for Imbalanced and Balanced Rodent Tuber Dataset with Random Oversampling Method 1030
Iwan Binanto, Marselinus Sandimus Jamlu, Robertus Denyva Adibuana and Nesti Fronika Sianipar

Indonesian Automated Short answer Scoring Using Sentence Transformers and Siamese LSTM 1034
Nurul Chamidah, Indra Budi and Rizal Fathoni Aji

Mask Region-based Convolutional Neural Network For Crack Detection: A Review 1040
Florentina Tatrin Kurniati, Hindriyanto Dwi Purnomo, Budhi Kristianto and Theophilus Wellem

Development of Falabic: an Interactive Arabic Learning Application using Augmented Reality 1046
Riri Safitri and Nahya Maisarah Farirahma

Convolutional Neural Network (CNN) Algorithm Development for Quality Measurement in Tire Product Classification: A Systematic Literature Review 1052
Armando Tirta Dwilaga, Lintang Yuniar Banowosari, Sudaryanto and Aini Suri Talita

Evaluating Rainfall Prediction Models: A Comprehensive Analysis of Linear Regression, Gradient Boosting, and Random Forest in Multi-Location Data Sets 1058
Anneke Annassia Putri Siswadi, Heri Suprapto, Purnawarman Musa, Tri Djoko Sri Margianto, Bheta Agus Wardijono and Eri Prasetyo Wibowo

A Hybrid Price Forecasting Model for the Stock Trading Market Based on AI Technique 1067
Wei Xu, Jianlong Chen and Jue Xiao

The Model Regularized CLAHE-CNN for the Traditional Script Character of Kaganga Bengkulu Recognition 1073
Erwin Dwika Putra, Ermatita Ermatita and Abdiansyah Abdiansyah

Transfer Learning Implementation for Batik Besurek Motifs Classification: A Comparative Study 1078
Marissa Utami, Ermatita Ermatita and Abdiansyah Abdiansyah

MobileGhost: Lightweight Ghost Module for Image Classification 1083
Muhammad Abdan Mulia, Safril Nur Abdillah, Rudy Rachman and Anny Yuniarti

A Literature Review on Optimizing Content-Based Recommender Systems to Overcome Over-Specialization Problems 1087
Bernadus Very Christioko, Hindriyanto Dwi Purnomo, Budhi Kristianto and Irwan Sembiring

Indonesian Cued Speech Transliterate System Using Convolutional Neural Network MobileNet 1093
Tito Sugiharto, Saparudin and Wikky Fawwaz Al Maki

The Determinants of Indonesia Export Performance: Gravity Model and Random Forest Model 1100
Ahmad Arib Al Farisy, Chisillia Mayangsari, Sarah Ulfah Al Amany, Devi Sartika and Fandy Bestario Harlan

Automatic Lane Assistance Line Detection using YOLOX in Vehicle Speed Detection System 1106
Fandisya Rahman, Anny Yuniarti and Ahmad Saikhu

Convolutional Neural Networks Performance Investigation in Banana Ripeness Classification: Impact of Model, Padding, and Optimizer 1112
Siti Mutrofin, Chastine Fatichah, Heny Yuniarti and Eko Setiawan

Improving Performance Fuzzy Methods in Stroke Disease Diagnosis Systems with Certainty Factor 1118
Rini Sovia, Mutiara Salsabila and Musli Yanto

Comparison of Loss Function Weighting Methods for Multi-Loss Function GAN 1124
Yaya Setiyadi, Judhi Santoso and Kridanto Surendro

Impact of Filter-Based Feature Selection on Prediction Model Performance for Early Detection of Stunting 1130
Sri Handani Widiastuti, Purwanto Purwanto, Adi Wibowo and Ratih Wirapuspita Wisnuwardani

IDSpider: Indonesian Standard Dataset for Text-to-SQL 1136
Abdiansah, Novi Yusliani, Fathoni, Muhammad Nizar, Aulia Salsabella and Agi Davi

Comparative Analysis of Intent Classification in Indonesian Chatbots Using BERT and RoBERTa Models 1142
Abdiansah, Muhammad Fachrurrozi and Aswin Dwiyono

Comparison of Centroid-Based Clustering Model Performance on Categorical Dataset 1148
Fitri Nuraeni, Abdul Syukur, Aris Marjuni, Nova Rijati and Dede Kurniadi

Comparative Study of Undersampling Techniques in Text Classification 1154
Usman Ependi, Ade Putra, Nahdatul Akma Ahmad, Albertus Dwiyoga Widiantoro, Muhammad Arifin and Faiz Zulkifli

Coconut Quality Classification Using Random Forest, Xgboost And Decesion Tree Algorithm With Color, Texture And Shape Feature Extraction 1160
Anindia Tri Cahyani, Husni Teja Sukmana, Saepul Aripiyanto, Yusuf Durrachman, Dewi Khairani and Siti Ummi Masruroh

A Blockchain-Based Approach for Secure and Transparent e-Faktur Issuance in Indonesia's VAT Reporting System 1169
Ghardy Lazuardy Farchan

Autoregressive Integrated Moving Average (ARIMA) Application with Dashboard Visualization to Predict Retail Sales Data 1175
Vania Martha Aurellia Lubis, Titus Kristanto and Mochamad Nizar Palefi Ma'Ady

Assessing Cyber Security Awareness through Demographic Influences, Key Factors, and Common Threats: A Systematic Literature Review 1183
Shafira Rosyad, Dafane Al-Nasywa, Shannon Tjandra and Dedy Syamsuar

Deep Learning-Based Topic Modeling for Apex Legends User Reviews 1189
Adinda Zahra Pamuji, Chastine Fatichah and Dini Adni Navastara

Implementation of Fuzzy C-Means for Clustering MSMEs in Jambi Province 1195
Kevin Jonathan Jm, Dyah Erny Herwindiati, Kelvin Ferdinand and Fenny Jong

Harnessing Residual Attention Networks for Stress Level Classification Using EEG Spectrograms 1200
Sza Sza Amulya Larasati and Fitra Abdurrachman Bachtiar

Leveraging Social Media Posts for Natural Disaster Monitoring Using CNN-BiLSTM Model 1206
Muhammad Rafi, Mohammad Reza Faisal, Irwan Budiman, Muliadi Muliadi, Dodon Turianto Nugrahadi and Mera Kartika Delimayanti

Two-phase Learning for Classifying Road Damage using YOLO Architecture 1212
Sarah Alissa Putri, Agus Budi Raharjo and Diana Purwitasari

Semantic Relatedness Graph for Text Segmentation of Patient-Centered Communications in Question-Answer Data 1218
Selomita Zhafiira, Yunianita Rahmawati, Daniel Siahaan and Diana Purwitasari

Analysis Cryptocurrency Prediction Price Using Recurrent Neural Network (RNN) Gate Recurrent Unit (GRU) Long Short-Term Memory (LSTM) 1224
Muhammad Patriot Bayu Santosa, Ni Luh Wiwik Sri Rahayu Ginantra, Ida Bagus Ary Indra Iswara and Desak Made Dwi Utami Putra

Exploring the Intersection of Information Technology: A Case Study on Optimizing Quality of Service and Energy Efficiency in Retail 1229
Tanni Maisari, Muharman Lubis, Hanif Fakhrurroja, Lyvia Winiyanti Lumingkewas, Kusumah Anggraito and Yumna Zahran Ramadhan

Dataset Alignment for Fine-Tuning Large Language Models for PJOK Educational Chatbot 1235
Viny Christanti Mawardi, Kevin Jonathan Jm, Jane Syahwalina, Sesilia Monika, Sawidji Widoatmodjo and Erik Wijaya

Ensemble Machine Learning for Stress Level Detection in Thesis Students 1241
Nahumi Nugrahaningsih, Rony Teguh and Ciola Dwi Sulistia

Improve Nighttime Highway Vehicles and Pedestrian Detection Using Yolov8+CLAHE ... 1246
I Nyoman Eddy Indrayana, Made Sudarma, I Ketut Gede Darma Putra and Anak Agung Kompiang Oka Sudana

Sentiment Analysis of Electric Vehicle Incentives Using CNN-LSTM and SVM Models 1252
Fahmi Reza Prasastio, Dimas R. Pradana Putra, Endra Permana, Afiahayati and Aufaclav Zatu Kusuma Frisky

Analysis and Design of a Data Architecture Management Assessment Guide using DAMA-DMBOKv2 and Process Assessment Model 1257
Tania Taryono, Tien Fabrianti Kusumasari, Rokhman Fauzi and Widia Febriyani

Application for Real-time Picture Quality Monitoring of Digital Television DVB-T2 1263
Sandy Suryo Prayogo, Tubagus Maulana Kusuma and Busono Soerowirdjo

Recommendation System for Automatic Watering and Fertilization of Shallots Using LSTM Algorithm 1269
Henning Ciptaningtyas, Irzal Sabilla and Salsabila Sofi

Risk Analysis and Mitigation of Rice Supply Chain in Madura Island Using SCOR Model and AHP-TOPSIS Method 1275
Hozairi Hozairi, Fajar Baskoro, Marcus Tukan, Syariful Alim, Fathorrozi Ariyanto and Moh. Badri Tamam

Using AI Algorithms for Predictive Analysis in Personalized Medicine 1285
Erwin Halim, Natasha Edyta Attan, Redondo Delve Chow and Davine Dorothy Halim

Intention to Use Cybersecurity in SMEs: Improving SMEs Performance 1291
Erwin Halim, Bryan Abraham Dongalemba and Therenita Agustin

Enhancing Explainable AI: Leveraging SHAP for Transparent Decision-Making in Machine Learning 1297
Marsani Asfi, Budi Warsito and Adi Wibowo

Abridged Neat Key Instance: an Integrity Property for Digital Multimedia Asset of Non-fungible Token 1303
Fardani Annisa Damastuti, Moch Fachri, Nugrahardi Ramadhani, Didit Prasetyo, Aliridho Barakbah and Mochamad Hariadi

Socio Technical Framework to Improve Learning Behavior in High Education Institute 1309
Siti Nurmiati, Abdul Karim and Sazalinsyah Razali

The Classification Of Tenun Timor Using Artificial Neural Network 1314
Mendarissan Aritonang, Jimmy Febrinus Naibaho, Doli Hasibuan, Alfonssus Situmorang, Fati G.N Larosa and Yusuf Ijonris Sipayung

Classification of NTT Woven Motif Images Based on Convolutional Neural Networks 1320
Risald Syarifuddin, Darsono Nababan, Mendarissan Aritonang, Budiman Baso, Mufria J Purba and Nurul Huda

Lemon (Citrus Limon) Quality Classification with Convolutional Neural Network (CNN) and Transfer Learning VGG16 1324
Saepul Aripiyanto, Husni Teja Sukmana, Tukino Tukino, Yusuf Durrachman, Dewi Khairani and Siti Ummi Masruroh

CBFS- MLP-Based Effective Early Prediction of Alzheimer's Disease 1331
Md. Shahadat Jaman, Md. Shamsul Arefin, Mifat Ahmed and Salahin Sourav

Smart Home Gas Sensor Optimization Using Kalman Filter for Data Processing 1336
Somantri Somantri, Muhamad Ikhsan Thohir, Alun Sujjada, Deni Setiawan, Ilham Komara, Fikri Ardiansyah Efendi, Muhamad Muslih, Zubaile Abdullah and Mohd Zainuri Saringat

The importance of Security Risk and Protection in Education Systems: A study of the Extended Detection and Response (XDR) Method in Data Security 1342
Herlino Nanang, B.Herawan Hayadi, Husni Teja Sukmana, Yusuf Durrachman, Viva Arifin and Muhamad Azhari

Emotion Classification Through Speech Recognition Using LSTM Model and MFCC Feature Extraction 1348
Ivana Lucia Kharisma, Somantri Somantri, Dila Aura Futri, Muhammad Ilham Nurdiansyah Alfajar, Tirawati Tirawati and Ika Ika

Optimizing Forest Fire Detection Using PSO, Neural Networks, and k-Fold Cross-Validation 1353
Nina Kurnia Hikmawati, Yudi Ramdhani and Doni Purnama Alamsyah

Image Classification Analysis to Identify the Tourism Potential of Sukabumi on Instagram Using a Deep Learning Approach 1359
Muhamad Muslih, Falentino Sembiring, Rieska Rahayu Ayuningsih, Anggun Fergina, Rachma Siva Ainunnisa and Mohd Zainuri Saringat

Analysis of Machine Learning Methods for Solving the Cumulative Vehicle Routing Problem 1364
Muhammad Amin, Syahril Efendi, Mahyuddin Mahyuddin and Marischa Elveny

Cyber Security for Hoax News Detection with Similarity Algorithm 1368
Sy. Yuliani Yakub, David Agustriawan and Irmawati Irmawati

Rainfall Prediction in North Barito Regency with Recurrent Neural Network and Support Vector Machine Models 1374
Indra M Sarkis S, Yolanda Yulianti Pratiwi Rumapea, Ivan Auyudy and Marzuki Sinambela

Overview of Image Detection Algorithms: Performance Analysis and Technology Trends 1378
Nurul Hidayat and R. Rizal Isnanto

Detecting Cyberbullying Using Machine Learning Approaches 1386
Harlen Gilbert Simanullang, Sutarto Wijono, Budhi Kristianto and Arina Prima Silalahi

Prototype of an Automatic Clothes Folding Machine for Laundry based Internet of Things 1392
Aditya Amar Ramadhan, Rita Wahyuni Arifin, Rully Pramudita, Nadya Safitri, Ari Nurul Alfian and Solikin Solikin