

## PREFACE

Assalaamu'alaikum Wr. Wb.

Thanks to Allah, JUITA Volume 12 Issue 2, the last issue of 2024, has been made available to scholars, practitioners, and students alike. This issue contains research articles on revolutionary algorithms, machine learning algorithms, fuzzy logic, economic-computation, health-computation, natural language processing, image processing, IoT development, Blockchain technology. We are grateful to everyone who contributed, especially the authors, the editorial board and reviewers, and the technical editor team, for taking the time to prepare the work for this publication.

As stated in the previous issue, JUITA is published twice a year, in May and November. Starting in 2025, JUITA will publish an issue every four months in March, July, and November. JUITA's manuscript employs the IMRAD model. Beginning with Volume 9, JUITA's manuscript is written in English. JUITA follows the IEEE standard, which includes font size and style modifications, to assure continuity and editorial quality. Similarly, cite and reference are in IEEE format. We sincerely hope that readers' comments and recommendations will result in improvements to the quality of this journal.

Wassalaamu'alaikum Wr. Wb.

Editor in Chief.

## TABLE OF CONTENT

i.	Cover	
ii.	Editor Preface	
iii.	Table of Content	
	Handling Noise Data with PCA Method and Optimization Using Hybrid Fuzzy C-Means and Genetic Algorithm	
	<i>Risa Widiyanti, Sugiyarto Surono, Kais Ismail Ibraheem</i> .....	141
	Machine Learning Techniques for Heart Disease Prediction Using a Multi-Algorithm Approach	
	<i>Muhammad Kunta Biddinika, Alya Masitha, Herman Herman, Vita Arfiana Nurul Fatimah</i> .....	149
	Improving Sentiment Analysis Accuracy Using CRNN on Imbalanced Data: a Case Study of Indonesian National Football Coach	
	<i>Slamet Riyadi, Muhammad Dzaki Mubarak, Cahya Damarjati, Asnor Juraiza Ishak</i> .....	159
	Implementation of PPCA Imputation, SMOTE-N Class Balancing in Hepatitis Classification Using Naïve Bayes	
	<i>Siti Fathmah, Dwi Kartini, Friska Abadi, Irwan Budiman, Muhammad Itqan Mazdadi</i> .....	169
	Time Complexity of Knuth Morris Algorithm and Rejang Algorithm in Rejang-Indonesian Translator	
	<i>Sastya Hendri Wibowo, Rozali Toyib, Yulia Darnita, Satria Abadi</i> .....	177
	Technical Analysis of the Indonesian Stock Market with Gated Recurrent Unit and Temporal Convolutional Network	
	<i>Siti Aisyah, Yenni Angraini, Kusman Sadik, Bagus Sartono, Gerry Alfa Dito</i> .....	187
	ScreenMy: a Lightweight Architecture of Tuberculosis-Diabetes Mellitus Screening System Integrating with EMRs	
	<i>Farid Suryanto, Merita Arini, Imam Riadi</i> .....	197
	Optimizing Attendance System: Integrating Liveness Detection and Deep Learning for Reliable Face Recognition	

<i>Joseph Teguh Santoso, Eko Sedyono, Kristoko Dwi Hartomo, Irwan Sembiring.....</i>	207
Improved SVM Classification Using Particle Swarm Optimization for Student Completion Prediction System	
<i>I Made Dwi Putra Asana, I Dewa Gede Ari Oka, I Made Oka Widyantara, I Made Subrata Sandhiyasa .....</i>	217
Development of ERP System for Outsourcing Company using Internet of Things and Blockchain Technology	
<i>Muhammad Agus Zainuddin, Sritrusta Sukaridhoto, Oktafian Sultan Hakim, Agus Prayudi.....</i>	227
MAC Address Classification in Privacy Issue Using Gaussian Naïve Bayes	
<i>Imam Riadi, Abdul Fadlil, Basit Adhi Prabowo .....</i>	235
LSTM Algorithm in Predicting Chronic Kidney Disease Optimized Using Genetic Algorithm	
<i>Brillyando Magathan Achmad, Siti Sa'adah, Isman Kurniawan .....</i>	243
Development of Staff Evaluation Software Based on Association Matrix Methods and Data Mining Using the Streamlit Framework	
<i>Yosia Adi Susetyo, Hanna Arini Parhusip, Suryasatriya Trihandaru .....</i>	255
Combining Oversampling and Pretrained Feature Extractor For Classification Diabetic Foot Uclear Thermogram Images	
<i>I Wayan Jepriana, I Gede Bintang Arya Budaya, Gede Angga Pradipta, Putu Desiana Wulaning Ayu .....</i>	267
Characteristics of Machine Learning-based Univariate Time Series Imputation Method	
<i>Dini Ramadhani, Agus Mohamad Soleh, Erfiani Erfiani.....</i>	279
Analysis of K-NN with the Integration of Bag of Words, TF-IDF, and N-Grams for Hate Speech Classification on Twitter	
<i>Kuncoro Hadi, Ema Utami .....</i>	289