

# **International Journal of Electrical Engineering, Mathematics and Computer Science**

## **VOL. 1 No. 1 MARCH 2024**



**INTERNATIONAL JOURNAL OF ELECTRICAL ENGINEERING,**

**MATHEMATICS AND COMPUTER SCIENCE**

**VOLUME. 1 NUMBER. 1 MARCH 2024**

**FOCUS AND SCOPE OF THE JOURNAL**

**International Journal of Electrical Engineering, Mathematics and Computer Science with E-ISSN.: 3048-1945 .: P-ISSN.: 3048-1910** published by the *Asosiasi Riset Teknik Elektro dan Informatika Indonesia*. This Journal accepts manuscripts based on empirical research, both quantitative and qualitative. The scope of the this Journal covers the fields of Electrical Engineering, Mathematics and Computer Science. This journal is a means of publication and a place to share research and development work in the field of technology. Articles published in this journal are addressed to the editor's office. Complete information for article loading and article writing instructions are available in each issue. Articles submitted will go through a selection process for bestari partners and/or editors. This journal is published 1 year 4 times (**March, June, September, December**)

**International Journal of Electrical Engineering, Mathematics and Computer Science** Articles published in the International Journal of Electrical Engineering, Mathematics and Computer Science include the results of original scientific research (priority), new (non-priority) scientific review articles, or comments or criticisms of articles in the International Journal of Electrical Engineering, Mathematics and Computer Science. The International Journal of Electrical Engineering, Mathematics and Computer Science ACCEPTS manuscripts or articles from various academics and researchers, both international and national.

Articles published in journals are articles that have gone through a review process by Mitra Bebestari (*peer-review*). **International Journal of Electrical Engineering, Mathematics and Computer Science** only accepts articles derived from original research results (priority priority), and new scientific review articles (non-priority). The decision to accept or not to accept scientific articles in this journal is the right of the Editorial Board based on the recommendations of the Reviewer Partners.

**JOURNAL INDEXING INFORMATION**

**International Journal of Electrical Engineering, Mathematics and Computer Science with E-ISSN.: 3048-1945 .: P-ISSN.: 3048-1910** <https://international.artei.or.id/index.php/IJEEMCS> is a *peer-reviewed journal* that has been indexed in several leading indexers, including: *Google Scholar; Digital Reference Keeper (GARUDA); Copernicus; Dimensions; Connecting Research and Researchers (ORCID); DOI Cross-Reference.*



**GARUDA**  
GARBA RUJUKAN DIGITAL

**I<sup>WORLD</sup>  
of  
JOURNALS**



**Dimensions**

**ORCID**  
Connecting research and researchers



**Crossref doi**

**INTERNATIONAL JOURNAL OF ELECTRICAL ENGINEERING,  
MATHEMATICS AND COMPUTER SCIENCE**

**VOLUME. 1 NUMBER. 1 MARCH 2024**

**EDITORIAL TEAM**

**Editor in Chief/ Chairman of the Board of Editors**

Gabriel Otan Apelabi, ST., MT ; Universitas Nusa Nipa, Indonesia

**Editorial Board/ Members of the Editorial Board**

Dr Bhadrappa Haralayya ; Lingaraj Appa Engineering College Bidar, Karnataka, India

Dr. Usman Amjad ; NED University Of Engineering and Technology, Karachi, Pakistan

Dr. Saroj Kumar Sahoo ; G H Rasoni Engineering College and management

Aliy Hafiz, S.Kom., M.T.I ; ITBA Dian Cipta Cendikia, Indonesia

Amiq Fahmi ; Universitas Dian Nuswantoro, Indonesia

Andri Nofiar. Am, S.Kom., M.Kom ; Politeknik Kampar, Indonesia

Prind Triajeng Pungkasanti, M.Kom ; Universitas Semarang, Semarang, Indonesia

Nur Wakhidah, S.Kom, M.Cs ; Universitas Semarang, Semarang, Indonesia

Rahman Abdillah, M.Tech ; Universitas Indraprasta PGRI, Indonesia

Diwahana Mutiara Candrasari Hermanto, M.Kom ; Sekolah Tinggi Ilmu Komputer

Yos Sudarso, Indonesia

Lukmanul Khakim, S.Kom., M.Tr.T ; Universitas Harkat Negeri, Indonesia

Dr. Genrawan Hoendarto, S.T., M.Kom. ; Universitas Widya Dharma Pontianak, Indonesia

Taftazani Ghazi Pratama, S.Kom., M.Eng ; Universitas Muhammadiyah Kudus, Indonesia

Dr. Taufik Hidayat, S.Kom., M.T ; Universitas Wiralodra, Indonesia

**Reviewer/ Peer-Reviewers**

Dr. Myasar Salim Alattar ; University of Mosul- College of Engineering, Iraq

Subrata Modak ; Supreme Knowledge Foundation Group of Institutions, Hooghly, West Bengal, India

Dr Majid Habib Khan ; Xian University Of Technology China

Dr Muhammad Faisal ; Ministry of Human Rights ; Pakistan

Allin Junikhah, S.ST., M.T. ; Universitas Islam Negeri Maulana Malik Ibrahim, Indonesia

ANDRI ANTO TRI SUSILO, M.Kom ; Universitas Bina Insan, Indonesia

Suyahman, S.Kom., M.Kom. ; Universitas Sugeng Hartono, Indonesia

Bagus Dwi Cahyono, M.Pd ; Universitas Sultan Ageng Tirtayasa, Indonesia

Jarot Dian Susatyo, M.Kom ; Universitas Sains dan Teknologi Komputer, Indonesia

Mukhlison ST., MT ; Universitas Islam Balitar, Indonesia

Amelia Permata Sari, S.Pd., M.Kom ; Universitas Insan Cita Indonesia, Indonesia

Ir. Adhadi Kurniawan, S.T., M.Eng., IPM., ASEAN Eng. ; Universitas Bengkulu, Indonesia

Turahyo, ST., M. Eng ; Sekolah Tinggi Teknologi Bontang, Indonesia

Bagus Yunanto, Ph.D ; Politeknik Negeri Semarang, Indonesia

Ir. Lukman Medriavin Silalahi, A.Md., ST., MT., IPM., APEC-Eng ; Universitas Presiden, Indonesia

Dr. Dewi Nurdiah, S.Kom., M.Kom. ; Universitas Semarang, Indonesia

**Publisher:**

**Asosiasi Riset Teknik Elektro dan Informatika Indonesia**

berdasarkan S.K.Menteri Hukum dan Hak Asasi Manusia Republik Indonesia

NOMOR AHU-0000051.AH.01.07.TAHUN 2024

Alamat : Perum Kanaya Land 2 no. 17 Rt. 01/RW. 03, kel. Kebonbatur, Kec. Mranggen, Kab.

Demak, Jawa Tengah, Indonesia, 59567

Website : <https://artei.or.id/>; email : [info@artei.or.id](mailto:info@artei.or.id)

**INTERNATIONAL JOURNAL OF ELECTRICAL ENGINEERING,  
MATHEMATICS AND COMPUTER SCIENCE  
VOLUME. 1 NUMBER. 1 MARCH 2024**

**FOREWORD**

**International Journal of Electrical Engineering, Mathematics and Computer Science with E-ISSN.: 3048-1945 .: P-ISSN.: 3048-1910** published by the *Asosiasi Riset Teknik Elektro dan Infomatika Indonesia*. This Journal accepts manuscripts based on empirical research, both quantitative and qualitative. The scope of the this Journal covers the fields of Electrical Engineering, Mathematics and Computer Science. This journal is a means of publication and a place to share research and development work in the field of technology. Articles published in this journal are addressed to the editor's office. Complete information for article loading and article writing instructions are available in each issue. Articles submitted will go through a selection process for bestari partners and/or editors. This journal is published 1 year 4 times (**March, June, September, December**)

*Reviewers* provide an assessment of originality, clarity of presentation, contribution to the field/science. The journal publishes *research articles*, literature review/review articles, case reports and *concept/policy articles*, in all areas of the Journal of Community Partnerships accepts articles in English and. The articles to be published are original works and have never been published. Entry articles will be reviewed by both internal and external review teams. The International Journal of Electrical Engineering, Mathematics and Computer Science accepts articles in English and other languages.

The Editorial Board will strive to continue to improve the quality of journals so that it can become one of the most important references in the development of science. A big thank you to the Reviewers and members of the Editorial Board and all parties involved in the publication of this journal.

Greetings

Editor-in-Chief

**INTERNATIONAL JOURNAL OF ELECTRICAL ENGINEERING,  
MATHEMATICS AND COMPUTER SCIENCE  
VOLUME. 1 NUMBER. 1 MARCH 2024**

**TABLE OF CONTENTS**

Journal Focus and Scope	I
Editorial Team	II
Foreword	III
Table of Contents	IV
<b>A Comparative Analysis of Deep Learning Models for Predicting Power System Failures</b>	<b>Pages 01-04</b>
Dimas Aditya, Devina Putri, Nanda Asyifa	
<b>Mathematical Modeling of Wireless Sensor Networks for Optimized Energy Consumption</b>	<b>Pages 05-08</b>
Maria Teresa Garcia, Jose Antonio Reyes, Ana Patricia Cruz, Carlos Manuel Ramos	
<b>Implementing Blockchain Technology for Securing IoT-Based Smart Grids</b>	<b>Pages 09-12</b>
Desi Mutiara Azizah, Caca Oktavia	
<b>Nonlinear Control Techniques for Enhanced Stability in Renewable Energy Systems</b>	<b>Pages 13-17</b>
Muhammad Abdullah Khan, Usman Tariq Chaudhry	
<b>Application of Machine Learning Algorithms for High-Accuracy Image Segmentation in Medical Imaging</b>	<b>Pages 18-22</b>
Fatima Ibrahim Al-Saad, Mohammed Abdullah Al-Hakim	