

# **First Mandalika International Multi-Conference on Science and Engineering 2022 - Track Computer Informatics (MIMSE-I-C-2022)**

Advances in Computer Science Research Volume 102

Mataram, Indonesia and Online  
14 September 2022

## **Editors:**

<b>I Gede Pasek Suta Wijaya</b>	<b>Agung Mulyo Widodo</b>
<b>Junseok Hwang</b>	<b>Bambang Irawan</b>

ISBN: 978-1-7138-7060-9

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Print copyright© (2023) by Atlantis Press (part of Springer Nature)  
All rights reserved.  
Copyright for individual electronic papers remains with the authors.

For permission requests, please contact the publisher:

Atlantis Press  
Van Godewijkstraat 30  
3311GX Dordrecht  
The Netherlands

[contact@atlantis-press.com](mailto:contact@atlantis-press.com)

Printed with permission by Curran Associates, Inc. (2023)

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

## TABLE OF CONTENTS

Bayesian Network Student Modelling on Intelligent Tutoring System .....	1
<i>Heri Wijayanto, I G. P. Suta Wijaya, Siti Nurmutmainnah, Ida Bagus Ketut Widiartha, Ramaditia Dwiyansaputra</i>	
The Design of Indonesia e-Government (SPBE) Governance in Tangerang City .....	14
<i>Andriyanti Asianto, Gerry Firmansyah</i>	
Optimization of Data Mining for Grouping Courses Using the MDDS and MAR Methods .....	27
<i>Paryati, Agung Mulyo Widodo, Shankar Rao Munjam, Krit Salahddine, Sagayam Martin</i>	
Design Mobile Application Variable Temperature and Humidity Water Flow Rate Automatic Control System .....	42
<i>Nizirwan Anwar, Agung Mulyo Widodo, Mosiur Rahaman, Sularso Budilaksono, Roesfiansjah Rasjidin, Hendry Gunawan, Kundang Karsono Juman, Muhammad Abdullah Hadi</i>	
An Enhanced Information System Success Model for Enterprise Resource Planning Implementation on State-Own Enterprise .....	57
<i>Anik Hanifatul Azizah, Sandfreni, Riya Widayanti, Muhammad Bahrul Ulum</i>	
Credit Risk Management Prediction Using the Support Vector Machine (SVM) Algorithm .....	67
<i>Iwan Setiawan, Evi Martaseli, Tugiman, Nizirwan Anwar, Mirfan, Panji Kuncoro Hadi, Imam Suhrawardi, Hendry Gunawan</i>	
Using Phase Coding Method for Audio Steganography with the Stream Cipher Encrypt Technique .....	79
<i>Made Sutha Yadnya, Bulkis Kanata, M. Khaerul Anwar</i>	
Blockchain Implementation in Indian Pharmaceutical Supply Chain Diminish Counterfeit Product .....	89
<i>Mosiur Rahaman, Bibisumaiya Chappu, Agung Mulyo Widodo, Andika Wisnujati, Aminul Haque, Ria Sarkar, Hsing-Chung Chen</i>	
Mobile Application Design for Online Physiotherapy Services .....	99
<i>Nizirwan Anwar, Jerry Maratis, Dewanto Rosian Adhy, Rudi Hermawan, Muhammad Abdullah Hadi</i>	
Design and Build a Mobile-Based Pet Care Information System with Personal Extreme Programming Method.....	113
<i>Ida Ayu Dela Aurellia, Royana Afwani, Budi Irmawati, Moh. Ali Albar, Noor Alamsyah, I Gde Putu Wirarama Ww</i>	
Speech Signal Algorithm Conversion from Sasak Language into Sasak Script with CNN and Rule-Based Method.....	129
<i>Arik Aranta, I Gede Pasek Suta Wijaya, Fitri Bimantoro, Gibran Satya Nugraha, Ramaditia Dwiyansaputra, Belmiro Razak Setiawan</i>	
Indonesian SMS Spam Detection Using TF-RF Feature Weighting Method and Support Vector Machine Classifier.....	142
<i>Muhammad Syulhan Ghofany, Ramaditia Dwiyansaputra, Fitri Bimantoro, Khairunnas</i>	
Comparative Study of Lung Disease Prediction System Using Top 10 Data Mining Algorithms with Real Clinical Medical Records .....	155
<i>I Ketut Agung Enriko, Teuku Muda Mahuzza, Sevia Indah Purnama, Dadang Gunawan</i>	

Go-Food Sentiment Analysis Using Twitter Data, Compared the Performance of the Random Forest Algorithm with that of the Linear Support Vector Classifier.....	168
<i>Muhammad Abdullah Hadi, Nizirwan Anwar, Budi Tjahjono, Lina, Binastya Anggara Sekti, Yunita Fauzi Achmad, Yulhendri</i>	
IoT Based Water Turbidity Classification Using Color Sensor TCS3200 .....	179
<i>Ida Ayu Vigi Meidhyana Putri, Wirarama Wedashwara, Ariyan Zubaidi, I Wayan Agus Arimbawa</i>	
Hierarchy Clustering Implementation on YouTube's Top Data .....	193
<i>Sekar Mulyani, IIin Fatonah, M. Wildan Santosa, Imam Tahyudin, Andi Dwi Riyanto, Dhanar Intan Surya Saputra</i>	
Privacy Preservation Agri-Food SCM Operation Based on Online/Offline RFID Using Block Chain.....	202
<i>Mosiur Rahaman, Andika Wisnujati, Agung Mulyo Widodo, Aminul Haque, Ria Sakar, Hsing Chung Chen</i>	
Mobile Application Based Parking System Control and Monitoring Model with Motor Vehicle Parking .....	216
<i>Budi Tjahjono, Nizirwan Anwar, Nixon Erzed, Rudi Heri Marwan, Euis Heriyati, Salman Maulana, Binastya Anggara Sekti</i>	
Classification of Pringgasela Typical Songket Using Multi Texton Co-Occurrence Descriptor and K-Nearest Neighbor.....	235
<i>Ridho Ilahi, Fitri Bimantoro, Ramaditia Dwiyansaputra, Rani Farinda</i>	
Classification of Nile Tilapia's Freshness Based on Eyes and Gills Using Support Vector Machine.....	250
<i>Muhammad Imam Syarwani, Gibran Satya Nugraha, Ramaditia Dwiyansaputra, Khairunnas</i>	
UI/UX Analysis of Integrated E-Commerce System with Smart Village Concept to Promote MSMEs (UMKM) and West Nusa Tenggara Tourism with Design Thinking Method.....	263
<i>Ario Yudo Husodo, Nadiyasaki Agitha, Fitri Bimantoro, Budi Irmawati, Ramaditia Dwiyansaputra, Indah Faidun Najah</i>	
Requirement Engineering: Development of Manufacturing Information Systems Using a Role Based Goal Oriented Model .....	278
<i>Sandfreni, Anik Hanifatul Azizah, Fransiskus Adikara, Muhammad Bahrul Ulum</i>	
User Experience Analysis for the Use of Electronic Signature in the Academic Activities .....	288
<i>Ahmad Zafrullah Mardiansyah, Ario Yudo Husodo, Cahyo Mustiko Okta Muvianto, Raphael Bianco Huwae</i>	
Implementation of Knowledge Management on Customer Relationship Management System, a Literature Review .....	299
<i>Adi Widiantono, Puteri Sejati</i>	
Utilizing Random Forest Algorithm for Sentiment Prediction Based on Twitter Data.....	310
<i>Iwan Setiawan, Agung Mulyo Widodo, Mosiur Rahaman, Tugiman, Muhammad Abdullah Hadi, Nizirwan Anwar, Muhammad Bahrul Ulum, Erry Yudhya Mulyani, Nixon Erzed</i>	
Black Box Testing with Equivalence Partitioning and Boundary Value Analysis Methods (Study Case: Academic Information System of Mataram University).....	321
<i>Putu Ayu Desi Anggara Santi, Royana Afwani, Moh. Ali Albar, Sri Endang Anjarwani, Ahmad Zafrullah Mardiansyah</i>	

Internet of Things (IoT) Based Multi-Server Room Temperature and Humidity Monitoring and Automatic Controlling by Using Fuzzy Logic Controller .....	334
<i>Agung Mulyo Widodo, Andika Wisnujati, Mossiur Rahaman, Bambang Irawan, Kraugusteliana Tambunan, Hsing-Chung Chen</i>	
Implementation of Temperature and Humidity Monitoring System Using LoRaWAN for Pharmaceutical Industry .....	347
<i>I Ketut Agung Enriko, Fikri Nizar Gustiyana, Misbahuddin, I Gusti Bagus Astawa</i>	
Evaluation of SPBE Management Domain of Tangerang City Government Based on Regulation of the Minister of PAN-RB Number 59 of 2020.....	358
<i>Bayu Sulistiyanto Ipung Sutejo, Gerry Firmansyah</i>	
Determining Optimization of the Finance Distress Parameters of Islamic Bank by Using Grey Relational Analysis (GRA).....	370
<i>Sobar M. Johari, Wing-Keung Wong, Agung Mulyo Widodo, Sabrina Ayu Ramadhania</i>	
Peer-Review Statements .....	381
<i>I Gede Pasek Suta Wijaya, Junseok Hwang, Agung Mulyo Widodo, Bambang Irawan</i>	
Smart EV Navigation and Data Collection System for Tree Based Data Modeling Using IoT.....	383
<i>Wirarama Wedashwara, Heri Wijayanto, Andy Hidayat Jatmika, I Wayan Agus Arimbawa</i>	
Early Detection of COVID-19 Infection Without Symptoms (Asymptomatic) with a Support Vector Machine (SVM) Model Through Voice Recording of Forced Cough .....	395
<i>Ni Nyoman Wahyuni Indraswari, I Gede Pasek Suta Wijaya, Arik Aranta, Rani Farinda</i>	
Mapping Identification of Sea Water Characteristics for Cultivation Land for Giant Clams (Family: Tridacnidae) in Sekotong West Lombok .....	411
<i>Laily Fitriani Mulyani, Nanda Diniarti, Bagus Dwi Hari Setyono</i>	
KADARING SIBI (Indonesian Sign System Online Dictionary): Web-Based Indonesian Sign System Learning App .....	419
<i>Rizaldi Septian Fauzi, Budi Irmawati, Nadiyasaki Agitha</i>	
An Optimized Framework for Breast Cancer Prediction Using Classification and Regression Tree .....	429
<i>Asma Agaal, Mansour Essgaer</i>	
Aksyaa: Web-Based Accounting Information System with Sharia Financial Perspective.....	444
<i>Giri Wahyu Wiriaasto, Misbahuddin, Muhamad Syamsu Iqbal, Djul Fikry Budiman, A. Sjamsiar Rachman, Lalu Ahmad Syamsul Irfan Akbar</i>	
IoT-Based Smart Village Transaction System Using RFID and Load Cell Modules.....	456
<i>Candra Ahmadi, Wirarama Wedashwara, Ni Nyoman Harini Puspita, Jiann-Liang Chen</i>	

## **Author Index**