

# **2022 International Conference Advancement in Data Science, E-learning and Information Systems (ICADEIS 2022)**

**Bandung, Indonesia  
23 – 24 November 2022**



**IEEE Catalog Number: CFP22W96-POD  
ISBN: 978-1-6654-6388-1**

**Copyright © 2022 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:	CFP22W96-POD
ISBN (Print-On-Demand):	978-1-6654-6388-1
ISBN (Online):	978-1-6654-6387-4

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

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## Table of Contents

Developing IT Strategic Transformation of Smart Village Concept for Indonesian Village Model.....	1
<i>Muhammad Ilham Alhari, Deden Witarsyah, Ryan Adhitya Nugraha, Hilda Nuraliza, Shafira Fatimah Azzahra and Kessya Azzahra Rismadewi</i>	
Smart Dashboard Design and Water Sensor Integration Architecture by Applying Internet of Things (IoT) Technology Using Data Analysis and Prediction Methods.....	7
<i>Furqan Maulana, Hanif Fakhurroja and Muharman Lubis</i>	
Social Media and E-Commerce Analysis on Aquaculture Supply Chain Management: A Case Study on Freshwater Lobsters.....	14
<i>Hanif Fajri, Hanif Fakhurroja and Muharman Lubis</i>	
Selection of the Best Color Space for Image Steganography with the Least Significant Bit Method.....	20
<i>Irfan Darmawan, Iman Nurdian, Alam Rahmatulloh and Rianto</i>	
Defense-in-Depth Security Strategy in Log4j Vulnerabilities Analysis.....	26
<i>Sylvia Feng and Muharman Lubis</i>	
Exploration of ECG-based Real-time Arrhythmia Detection: A systematic literature review.....	30
<i>Muhammad Ilham Rizqyawan, Edi Triono Nuryatno, Hanif Fakhurroja, Aris Munandar, Jony Winaryo Wibowo, Dwi Esti Kusumandari, Artha Ivonita Simbolon, Dika Setiawan, M Faizal Amri, Ulfah Nadiya and Taufik Ibnu Salim</i>	
Prediction Model of Mortality with Respiratory Rate, Oxygen Saturation and Heart Rate using Logistic Regression.....	38
<i>Alfi Zahra Hafizhah, Sinung Suakanto, Riska Yanu Fa'Rifah and Edi Triono Nuryatno</i>	
APPLICATION OF REVERSE ENGINEERING AND SIMULATION IN THE DESIGN OF A PONTOON DRUM FOR COCONUT SHELL COMBUSTION.....	44
<i>Agus Kusnayati, Muhammad Arash Arisiah and Dino Caesaron</i>	
Optimization of Hijaiyah Letter Handwriting Recognition Model Based on Deep Learning.....	49
<i>Alam Rahmatulloh, Ricky Indra Gunawan, Irfan Darmawan, Randi Rizal and Biki Zulfikri Rahmat</i>	
Event-Driven Architecture to Improve Performance and Scalability in Microservices-Based Systems.....	55
<i>Alam Rahmatulloh, Fuji Nugraha, Rohmat Gunawan and Irfan Darmawan</i>	
Web Service Modeling for GraphQL-Based Academic Data Service Interoperability.....	61
<i>Irfan Darmawan, Alam Rahmatulloh and Rohmat Gunawan</i>	
A Twitter Social Media Analytics Approach on Indonesian Digital Wallet Service.....	67
<i>Aditya Wardhana, Mahir Pradana, Budi Rustandi Kartawinata, Marta Mas-Machuca, Triaji Prio Pratomo and Leonardus Wahyu Wasono Mihardjo</i>	
Tourism Itinerary Package Design Through User Experience With Clustering Analysis Approach.....	72
<i>Lutfia Septiningrum and Rayinda Pramuditya Soesanto</i>	

Impact of institute closures and learning practices on education in COVID-19 Pandemic: Omnichannel in Education .....	77
<i>Babita Singla, Maria Sugiat, Kumar Shalender, Sandhir Sharma, Deden Witarsyah and Tri Widarmanti</i>	
CLUSTERING OF COVID-19 VACCINATION RECIPIENTS IN DKI JAKARTA USING THE K-MEDOIDS ALGORITHM .....	81
<i>Frista Millenia Trisuciana, Deden Witarsyah, Edi Sutoyo and José Manuel Machado</i>	
CRYPTOCURRENCY SENTIMENT ANALYSIS ON THE TWITTER PLATFORM USING SUPPORT VECTOR MACHINE (SVM) ALGORITHM .....	87
<i>Raja Nanda Satrya, Oktariani Nurul Pratiwi, Riska Yanu Fa'Rifah and Jemal Abawajy</i>	
A Comparison of Data-Driven and Data-Centric Architectures using E-Learning Solutions	92
<i>Sinan Idris, Vivian Nwaocha, Jules Degila and Adebukola Onashoga</i>	
USED CARS PRICE PREDICTION IN DKI JAKARTA USING EXTREME GRADIENT BOOSTING AND BAYESIAN OPTIMIZATION ALGORITHM .....	98
<i>Fauzi Arifin Alghifari, Rachmadita Andreswari and Edi Sutoyo</i>	
Used Car Clustering in Bandung City Using K-Prototypes Algorithms .....	103
<i>Fie Alfain Nuril Haque, Rachmadita Andreswari and Edi Sutoyo</i>	
Corrective Maintenance Configuration to Optimize CPO Production using SAP .....	108
<i>Nabilla Prihya Nugraha, Muhardi Saputra and Warih Puspitasari</i>	
An Empirical Evaluation of IT Adoption for Microsoft Dynamics 365 : A Case Study Manufacture Industry .....	114
<i>Alya Arifah Rizqy, Warih Puspitasari and Muhardi Saputra</i>	
USED CAR PRICE PREDICTION IN SURABAYA USING RANDOM FOREST REGRESSOR ALGORITHMS .....	118
<i>Annisaa Kinadi, Rachmadita Andreswari, Edi Sutoyo, Ramdhan Nugraha and Anton Kamil</i>	
Paraphrase Generator for Indonesian Language: Basic Method for Generating Question on Interviewbot Engine .....	122
<i>Sinung Suakanto, Joko Siswanto, Dina Angela, Tien Kusumasari and Tjong Wan Sen</i>	
Comparison of Bagging and Boosting in Imbalanced Multilabel of Al-Quran Dataset .....	128
<i>Muhammad Rizqi Choirulfikri, Adiwijaya and Arie Ardiyanti Suryani</i>	
Twenty Years of Cooperative Learning: A Data Analytic with Bibliometric Approach .....	133
<i>Ade Irma Susanty, Sherly Artadita, Mahir Pradana, Tse-Kian Neo, Mai Neo and Angela Amphawan</i>	
Do Students' Popularity and Group Conformity Support Their Academic Performance? A Social Network Analysis Perspective .....	138
<i>Dian Puteri Ramadhni, Muhammad Apriandito Arya Saputra and Alila Pramiyanti</i>	
Rational Of Study: Speed Up Production Development By DevOps Culture .....	142
<i>Rizki Sadewa, Muharman Lubis and Hanif Fakhurroja</i>	

The Effectiveness of E-Learning Service Quality in Influencing E-Learning Student Satisfaction and Loyalty at Telkom University .....	149
<i>Marheni Eka Saputri, Fitriani Nur Utami and Devilia Sari</i>	
IMPLEMENTATION OF ROBOTIC PROCESS AUTOMATION FOR SENTIMENT ANALYSIS OF LECTURER EVALUATION BY STUDENTS (EDOM) AT HIGHER EDUCATION INFORMATION SYSTEM.....	154
<i>Dariosany Nur Iqlal Rahman, Rachmadita Andreswari, Rokhman Fauzi and Jacques Bazen</i>	
Mobile Malaysian Sign Language Application .....	160
<i>Lye Chee Hao, Ryan Adhitya Nugraha, Mohd Farhan Md Fudzee, Deden Witarsyah, Maria Sugiat and Dedy Syamsuar</i>	
2D Mobile Vocab Library Learning Application .....	165
<i>Heng Seng Zhou, Ryan Adhitya Nugraha, Mohd Farhan Md Fudzee, Deden Witarsyah, Maria Sugiat and Dedy Syamsuar</i>	
Development of User Management in Ihya Digital Ecosystem Using Iterative Incremental Method.....	170
<i>Ajff Priandhika Izzulhaq, Rahmat Fauzi, Sinung Suakanto, Abdul Kadir Hassan Disina, Hairulnizam Mahdin and Ibrahim Anka Salihu</i>	
Classification of High School History Questions Based on Cognitive Level Revised Bloom's Taxonomy Using K-Nearest Neighbor Method .....	176
<i>Farah Sherina Salma, Oktariani Nurul Pratiwi and Riska Yanu Fa'Rifah</i>	
Applications Of Internet of Things(IoT) in Agriculture: The Need and Implementation ...	182
<i>Abhineet Anand, Dr. Naresh Trivedi, Vinay Gautam, Raj Gaurang Tiwari, Deden Witarsyah and Alok Misra</i>	
Application of Machine Learning for Diagnosis of Liver Cancer .....	187
<i>Dr. Naresh Trivedi, Raj Gaurang Tiwari, Abhineet Anand, Vinay Gautam, Deden Witarsyah and Alok Misra</i>	
Machine Learning Based Evaluations of Stress, Depression, and Anxiety .....	192
<i>Dr. Naresh Trivedi, Raj Gaurang Tiwari, Deden Witarsyah, Vinay Gautam, Alok Misra and Ryan Adhitya Nugraha</i>	
Analysis Of Antecedents And Effect Of Social Media Word of Mouth Toward Luxury Brand Purchase Intention Using Structural Equation Model (SEM).....	197
<i>Maria Sugiat and Fera Shinta Maria Silalahi</i>	