2022 3rd International Conference on Artificial Intelligence and Data Sciences (AiDAS 2022)

Virtual Conference 7-8 September 2022



IEEE Catalog Number: CFP22AIG-POD **ISBN:**

978-1-6654-9165-5

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:	CFP22AIG-POD
ISBN (Print-On-Demand):	978-1-6654-9165-5
ISBN (Online):	978-1-6654-9164-8

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



	page
Organising Committee	viii
Reviewers	ix
Author Index	xi
PAPER	
Comparative Analysis of Machine Learning Techniques for Acoustic Machine Tracking under Different Signal Durations Jason Jing-Wei Lim, Boon-Yaik Ooi, Soung-Yue Liew, Wai-Khuen Cheng	1
Preliminary Study of Diabetic Retinopathy Classification from Fundus Images Using Deep Learning Model Hoe Yean Sam, Sayed Ahmad Zikri B Sayed Aluwee, Nur Syadhila Bt Che Lah, C.M. Goh, Chai Meei Tyng, Haizul Ikhwan B Murat	7
A Recurrent Neural Network based Method for Low-Rate DDoS Attack Detection in SDN Muhammad Waqas Nadeem, Hock Guan Goh, Yichiet Aun, Vasaki Ponnusamy	13
Lexicon-based Non-Compositional Multiword Augmentation Enriching Tweet Sentiment Analysis Bashar Tahayna, Ramesh Kumar Ayyasamy, Rehan Akbar, Nor Fatiha Binti Subri, Anbuselvan Sangodiah	19
Disparity-aware Pandemic Response Classification by Fine-Tuning Transfer Learning Approach Bashar Tahayna, Ramesh Kumar Ayyasamy, Anbuselvan Sangodiah, Norazira Binti A Jalil, Lina N A Tahayna, Saraswathy Krisnan	25
Performance of ACO-based Decision Tree Algorithm with Imbalanced Class Data Sets – A Heuristic Approach Muhamad Hasbullah Mohd Razali, Rizauddin Saian, Balkiah Moktar, Yap Bee Wah, Ku Ruhana Ku- Mahamud	29
Heritage Properties Price Prediction Using Random Forest Classifier Junainah Mohamad , Nur Shahirah Ja'afar	39
Design of a Fuzzy Logic Controller for Washing Machine Choo Jia Zheng, Chang Jing, Lee Heng Yew	45
Clustering in Game Analysis on FIFA22 Official Players Data Muhammad Faidi Akif Md Ali, Muhammad Amir Fahmy Muhalith, Muhammad Syazwan Fikri Sahran, Zubli Quzaini Zubli, Siti Nur Kamaliah Kamarudin, Shuzlina Abdul Rahman	49
PCA Method in Facial Features Extraction for Attendance Tracking Prototype Farhan Najmi Mohd Nazri, Siti Nur Kamaliah Kamarudin, Mohd Razif Shamsuddin	55

Student Career Recommendation System Using Content-Based Filtering Method Adib Hakimi Abdul Rashid, Masurah Mohamad, Suraya Masrom, Ali Selamat	60
Duplicate Detection Using Unsupervised Random Forests: A Preliminary Analysis	66
Zaturrawiah Ali Omar, Noratiqah Mohd Ariff, , Zamira Hasanah Zamzuri, Mohd Aftar Abu Bakar Analysis of Indonesian Society's Perceptions of the COVID-19 Vaccine in Youtube Comments Using Machine Learning Algorithms Hikmah Al Jannah, Denny Hermawan	72
Semi-Automated Pre-Processing and Visualization of Fauna Data Mohamad Haiqal Sidek, Sharifalillah Nordin	78
Application of the Certainty Factor and Forward Chaining Methods to a Cat Disease Expert System Andi Satria, Athaya Naufal Yulianra, Mutia Az Zahrah, Maria Susan Anggreainy	83
Acne Treatment Recommender Fuzzy Knowledge-Based System with Image Processing Puteri Noor Syahira Norizad, Yuzi Mahmud, Norzaidah Md Noh, Shuzlina Abdul-Rahman	89
Realtime Cyber Threat Dataset Generator Over PRBS Block Circuit Saiyed Rasol bin Tuan Muda, Muhammad Hafiz Mohd Yusof, Radzi Ahmad	95
Shrinking Neural Style Transfer Model with Knowledge Distillation Hidayaturrahman, Harco Leslie Hendric Spits Warnars, Benfano Soewito, Ford Lumban Gaol	101
Estimating Mango Mass from RGB Image with Convolutional Neural Network Mohammad Hafiz bin Ismail, Mohd Nazuan Wagimin, Tajul Rosli Razak	105
Simulating Bruise and Defects on Mango images using Image-to-Image Translation Generative Adversarial Networks Mohammad Hafiz bin Ismail, Tajul Rosli Razak, Ray Adderley J.M. Gining, Shukor Sanim Mohd Fauzi	110
Grading of Mango Fruits Based on Physical Measurements Mohd Nazuan Wagimin, Mohammad Hafiz bin Ismail, Shukor Sanim Mohd Fauzi, Nurul Ain Mohd Zaki	115
Application of Logistic Regression Model on Imbalanced Data in Personal Bankruptcy Prediction Aqilah Nadiah Md. Sahiq, Shafinar Ismail, Sharifah Heryati Syed Nor, Ahmad Zia UI-Saufie, Wan Fairos Wan Yaacob	120
Hybrid K-Modes and Firefly Algorithm based Entropy Measure for Clustering Heterogeneous Categorical Timber Opinionated Data Nurshazwani Muhamad Mahfuz, Marina Yusoff	126
A Study of Synthetic Double Sampling np Chart Based on Median Run Length Moi Hua Tuh, Cynthia Mui Lian Kon, Hong Siang Chua, Man Fai Lau, Robin Yee Hui Chang	131

Cryptocurrency Price Prediction using Bi-GRU Model with English and Malay	136
Nur Azmina Mohamad Zamani, Jasy Liew Suet Yan, Ahmad Muhyiddin Yusof,	
Sentiment Analysis on Online Learning for Higher Education During Covid-19	142
Regression Study for Thyroid Disease Prediction: Comparison of Crossing-Over Approaches and Multivariate Analysis Song-Quan Ong, Pradeep Isawasan, Khairulliza Ahmad Salleh	148
Towards A Machine Learning Framework for Suicide Ideation Detection in Twitter Yan Qian Lim, Ming Jie Lee, Yim Ling Loo	153
A Context-Aware Data Reduction Framework for High Velocity Data Wan-Qing Ng, Boon-Yaik Ooi, Xin-Yi Kh'ng, Soung-Yue Liew, Eleni Symeonaki	158
Analyzing Factors of Mental Health Problems among Malaysian University Students using Clustering Analysis Norulhidayah Isa1, Norizan Mohamad2, Anis Izzati Ahmad Badri, Hafizah Besar Sa'aid	164
Speed Control Design for Permanent Magnet Synchronous Motor Drive based on Pid-Fuzzy Controller Muhammad Syakir Ab Ghani, Nooradzianie Muhammad Zin, Fathiah Zakaria, Mohamad Fauzi Omar, Yusrina Yusof, Azuwien Aida Binti Bohari	170
Design and Implementation of Residential Rental Rates Forecast Model using Data Mining Algorithms Ramesh Kumar Ayyasamy, Bashar Tahayna, Suthashini Subramaniam, Foong Jing Tan, Saraswathy Krisnan, Lina N A Tahayna	176
Power Transformer Incipient Fault Diagnosis Using Support Vector Machine Mohamad Aiman Syahmi Rosli, Fathiah Zakaria, Nooradzianie Muhammad Zin, Raja Mohd NoorHafizi Raja Daud, Mohd Nazrul Sidek, Mohamad Yusof Mat Zain, Abdul Hafiz Kassim	182
Improving Gender Classification based on Skin Color using CNN Transfer Learning Nur Maisarah Mohamad, Muhammad Firdaus Mustapha, Siti Haslini Ab Hamid,	186
Emotion recognition based on EEG directed functional connectivity using deep learning algorithm Meei Tyng Chai, Chuan Meng Goh, Sayed Ahmad Zikri Sayed Aluwee	192
Multiclass Classification for Air Quality In Jakarta Using Support Vector Machine and Multi-Layer Perceptron Classifier Syarifah Diana Permai, Noviyanti Tri Maretta Sagala, Alfi Yusrotis Zakiyyah, Heruna Tanty, Jeklin Harefa	198

Covid-19:Sentiment Analysis of Students Readiness on Open Distance Learning (ODL) via Twitter Samsiah Ahmad, Zaki Hadri Mohd Nizam, Zalikha Zulkifli, Lily Marlia Abdul Latif, Mohamed Imran Mohamed Ariff	203
Improving Diabetes Mellitus Prediction with MICE and SMOTE for Imbalanced Data Mohammad Nasir Abdullah, Yap Bee Wah	209
Sentiment Analysis on MySejahtera Application during COVID-19 Pandemic Putri Azmira R Azmi, Aida Wati Zainal Abidin, Sofianita Mutalib, Iskandar Shah Mohd Zawawi, Shamimi A Halim	215
Image Encryption Algorithm Through Hill Cipher, Shift 128 Cipher, and Logistic Map Using Python Samsul Arifin, Felix Indra Kurniadi, I Gusti Anom Yudistira, Rinda Nariswari, Nerru Pranuta Murnaka, Indra Bayu Muktyas	221
Critical Review of Z-numbers: The theoretical and application development Norzanah Abd Rahman, Zamali Tarmudi,	227
Using Machine Learning classification methods to detect COVID-19 Status in Selangor District Nor Faezah Mohamad Razi, Nor Aslily Sarkam, Nor Hazlina Mohammad, Ilya Zulaikha Zulkifli, Jaaida Najihah Jamidin	232
Sentiment Analysis of Depression Illness during Covid-19 in Social Media: A Preliminary Study Nuriffah Izzati Nazir, Nurulhuda Zainuddin, Ali Selamat	238
Forecasting Medical Waste Generation In Hospital Taiping, Perak Using Nonlinear Autoregressive (NAR) Neural Network Method Haris Mushid Mohd Rashid, Siti Rohana Mohd Yatim, Samsuri Abdullah, Muhamad Yusof Abdul Fuzi, Iza Azura Nazim, Zulkarnain Ahmad	243
Clickbait Headline Detection in Indonesian News Sites using Robustly Optimized BERT Pre-training Approach (RoBERTa) Joshua Sirusstara, Neil Alexander, Akram Alfarisy, Said Achmad, Rhio Sutoyo	248
Modelling Emotions Recognition from Facial Expression using Vision Transformer with IMED Dataset Limas Jaya Akeh, Ronaldo Kenny Chandra, William Loo, Rhio Sutoyo	254
Music Classification Model Development Based on Audio Recognition using Transformer Model Andreas Aditya Alvaro Harryanto, Kevin Gunawan, Rio Nagano, Rhio Sutoyo	258
Hoax Classification in Imbalanced Datasets Based on Indonesian News Title using RoBERTa Yohan Muliono, Ford Lumban Gaol, Benfano Soewito, Harco Leslie Hendric Spits Warnars	264

Kenaf Flower Detection using YOLOv3 Anastasya Auliya, Winangsari Pradani, Toto Haryanto	269
Systematic Literature Review on Application of Artificial Intelligence in Cancer Detection Using Image Processing Giovanni Chandra, Kevina Diva Irisha, Vivianit Indyca Vica, Puti Andam Suri, Muhammad Edo Syahputra	273
Indonesian Sentiment Analysis Model from Social Media by Stacking BERT and BI-LSTM Andry Chowanda, Yohan Muliono	278
Twitter-based Sentiment Analysis of Cryptocurrencies Kartika Purwandari, Andrew Wiguna, Edric Pratama Widjaja	283
Image Classification of Coronavirus (COVID-19) Using CT Scan Images with Transfer Learning Method Muhammad Furgan, Ade Djamal	288
COVID-19 Vaccine Selection Decision Based On ZNumber Valuation Approach Zamali Tarmudi, Nurulzulaiha Suhadak,	294
Performance Comparison of Improved Common Sequence to Sequence Paraphrasing Models Denovan Widjaja, Timothy Fustian, Henry Lucky, Derwin Suhartono	299
Content Based Spam Classifying Algorithms in Email Vanessa Sunjaya, Stefan Senjaya, Joko Utama, Henry Lucky, Derwin Suhartono	305
Using Regression to Predict Number of Tourism in Indonesia based of Global COVID-19 Cases Eduardo Brilliandy, Adrian Hartanto, Muhammad Nurzaki, Henry Lucky, Derwin Suhartono	310
Diabetic Retinopathy Detection Using Grey Level Co-Occurrence Matrix Aliff Azfar Bin Aris, Zalikha Zulkifli, Shahirah Mohamed Hatim	316
Deep learning and Threshold Probability for Out of Scope Intent Detection in Task Oriented Chatbot Muhammad Fikri Hasani, Ford Lumban Gaol, Benfano Soewito, Harco Leslie Hendric Spits Warnars	322
Readability Indexes of E-commerce Reviews with Laplacian Score Algorithm Nurkhairizan Khairudin, Nurfadhlina Mohd Sharef, Widad Ismail, Azilawati Azizan, Noridah Abu Bakar, Suraya Masrom	328