

6th International Conference on Software Engineering & Computer Systems

IOP Conference Series: Materials Science and Engineering
Volume 769

Kuantan, Malaysia
25 - 27 September 2019

ISBN: 978-1-7138-4707-6
ISSN: 1757-8981

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.

This work is licensed under a Creative Commons Attribution 3.0 International Licence.
Licence details: <http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2022)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

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
Web: www.proceedings.com

TABLE OF CONTENTS

| | |
|---|-----|
| Preface | |
| Logo | |
| Photos | |
| Peer review statement | |
| Industry 4.0: Eyeing The Future via Simulation..... | 1 |
| <i>Aisyah Ibrahim, Tuty Asmawaty Abdul Kadir, Adzhar Kamaludin</i> | |
| A Combined Weighting for the Feature-Based Method on Topological Parameters in Semantic Taxonomy Using Social Media | 12 |
| <i>Ali Muttaleb Hasan, Noorhuzaimi Mohd Noor, Taha Hussein Rassem, Ahmed Muttaleb Hasan, Waleed A. Hammood</i> | |
| A Preliminary Component Model for IoT..... | 23 |
| <i>Arbaayah Kamarudin, Ng Keng Yap, Mohamed Abdullahi Ali, Lim Swee Phang</i> | |
| Preserving the Topology of Self-Organizing Maps for Data Analysis: A Review | 31 |
| <i>B Yusob, Z Mustaffa, S M Shamsuddin</i> | |
| Implementation of the Greedy Algorithm to determine the nearest route Search in distributing food production..... | 37 |
| <i>Hasanul Fahmi, Muhammad Zarlis, Erna B Nababan, Poltak Sihombing</i> | |
| A Model Of Factors Influencing Users' Adoption Of Internet Of Things Services: A Case Study Of Iraqi Educational Institutions..... | 44 |
| <i>Hayder Salah Hashim, Zainab Amin Al-Sulami</i> | |
| Big data: definition, characteristics, life cycle, applications, and challenges | 56 |
| <i>Hiba Basim Alwan, Ku Ruhana Ku-Mahamud</i> | |
| A Geofencing-based Recent Trends Identification from Twitter Data..... | 64 |
| <i>M. Saef Ullah Miah, M. Sadid Tahsin, Saiful Azad, Gollam Rabby, M. Sirajul Islam, Shihab Uddin, M. Masuduzzaman</i> | |
| An Improved Mapping Pattern for Digital Watermarking using Hilbert-Peano Pattern | 73 |
| <i>Mohamad Nazmi Nasir, Syifak Izhar Hisham, Mohd Faizal Ab Razak</i> | |
| Improvement of the POLISAS e-Request Transcript System using Query Optimization | 79 |
| <i>Mohd Hariz bin Ibrahim, Suryanti Awang, Kohbalan Moorthy</i> | |
| Indoor occupancy estimation using carbon dioxide concentration and neural network with random weights | 93 |
| <i>Muhammad Faris Ramli, Kishendran Muniandy, Asrul Adam, Ahmad Fakhri Ab. Nasir, Mohd Ibrahim Shapiai</i> | |
| Dengue Innovation: A Sustainability Approach for Preventing and Controlling of Dengue Diseases Outbreaks via IoT Technology | 101 |
| <i>Mustafa Man, Wan Aezwani Wan Abu Bakar, Lim Chee Hwa, Wan Nural Jawahir Wan Mohd Yusoff, Mustafa Afenddi Mat Nor, Mohd. Irfan Hakim Mohd. Noor</i> | |

| | |
|---|-----|
| Reducing the Throughput Time for Patient Flow in Emergency Department: Simulation and Modelling Overview..... | 110 |
| <i>Nidal Hamza, Mazlina Abdul Majid, Hael Al-Bashiri</i> | |
| IoT-Based Smart Environment Monitoring System for Air Pollutant Detection in Kuantan, Pahang, Malaysia | 117 |
| <i>Nor Saradatul Akmar Zulkifli, Mohammad Ridwan Satrial, Mohd Zamri Osman, Nor Syahidatul Nadiah Ismail, Muhammad Rusydi Muhammad Razif</i> | |
| Unstructured Malay Text Analytics Model in Crime | 128 |
| <i>Rosmayati Mohamad, Nazratul Naziah Mohd Muhait, Noor Maizura Mohamad Noor, Zulaiha Ali Othman</i> | |
| A Survey on Crowdsourcing Awareness In Indonesia Micro Small Medium Enterprises | 135 |
| <i>S. Wulandari, M. Rahmah</i> | |
| A Model Of Biodiversity Taxonomy Database (iTaxo) For Managing And Analysing Kenyir Landscape Biodiversity Data..... | 143 |
| <i>Salwana Mohamad Asmara, Mustafa Man, Mohd Tajuddin Abdullah</i> | |
| Predicting Graduate Employability based on Program Learning Outcomes | 154 |
| <i>Wan Nor Afiqah Wan Othman, Aziman Abdullah, Awanis Romli</i> | |
| Student Learning Progress as Predictor for Graduate Employability Performance..... | 162 |
| <i>Wan Nor Afiqah Wan Othman, Aziman Abdullah</i> | |
| A Conceptual IR Chatbot Framework with Automated Keywords-based Vector Representation Generation | 170 |
| <i>A S Lokman, M A Ameen, N A Ghani</i> | |
| Pathfinding Algorithms in Game Development | 179 |
| <i>Abdul Rafiq, Tuty Asmawaty Abdul Kadir, Siti Normaziah Ihsan</i> | |
| Text-based emotion prediction system using machine learning approach..... | 190 |
| <i>Ahmad Fakhri Ab. Nasir, Eng Seok Nee, Chun Sern Choong, Ahmad Shahrizan Abdul Ghani, Anwar P. P. Abdul Majeed, Asrul Adam, Mhd. Furqan</i> | |
| Generic Code Clone Detection Model for Java Applications..... | 201 |
| <i>Al-Fahim Mubarak-Ali, Shahida Sulaiman</i> | |
| Template Matching Analysis using Neural Network for Mobile Iris Recognition System | 209 |
| <i>Anis Farihan Mat Raffei, Siti Zulaikha Dzulkifli, Nur Shamsiah Abdul Rahman</i> | |
| A Review of Divorce Information Management System | 217 |
| <i>Aziman Abdullah, AK Asar, Solehah Shamsuddin, Mohammad Affendy Oмарdin</i> | |
| A Novel Learning Engagement Data Model (LEDM) for Online Attendance System | 223 |
| <i>Aziman Abdullah, AK Asar, Nur Alnisa' Anis Alanna Binti Ruzelan</i> | |
| The prediction of undergraduate student performance in chemistry course using multilayer perceptron..... | 231 |
| <i>Che Akmal Che Yahaya, Che Yahaya Yaakub, Ahmad Firdaus Zainal Abidin, Mohd Faizal Ab Razak, Nuresa Fatin Hasbullah, Mohamad Fadli Zolkipli</i> | |
| Improving Green IT Assessment Tool Using Case-Based Reasoning Concept | 244 |
| <i>Chua Xiao Ying, Mazlina Abdul Majid, Steve Anthony Lojuntin</i> | |

| | |
|--|-----|
| Detection of Proliferative Diabetic Retinopathy in Fundus Images Using Convolution Neural Network..... | 252 |
| <i>Hasliza Abu Hassan, Marzuqi Yaakob, Sasni Ismail, Juwairiyah Abd Rahman, Izyani Mat Rusni, Azlee Zabidi, Ihsan Mohd Yassin, Nooritawati Md. Tahir, Suraiya Mohamad Shafie</i> | |
| Swarm intelligence algorithms' solutions to the travelling salesman's problem..... | 267 |
| <i>J B. Odili, A. Noraziah, Roslina Mohd Sidek</i> | |
| Dengue Outbreak Prediction Using an Improved Salp Swarm Algorithm..... | 277 |
| <i>Khairunnisa Amalina Mohd Rosli, Zuriani Mustaffa, Yuhanis Yusof, Mohamad Farhan Mohamad Mohsin</i> | |
| Texture-based Feature using Multi-blocks Gray Level Co-occurrence Matrix for Ethnicity Identification | 286 |
| <i>M Z Osman, M A Maarof, M F Rohani</i> | |
| GbLN-PSO Algorithm for Indoor Localization in Wireless Sensor Network..... | 293 |
| <i>M. Shahkhir Mozamir, Rohani Binti Abu Bakar, Wan Isnii Soffiah Wan Din, Zalili Musa</i> | |
| A Comparison of Particle Swarm optimization and Global African Buffalo Optimization | 301 |
| <i>Mohammed Adam Kunna Azrag, Tuty Asmawaty Abdul Kadir, Noorlin Mohd Ali</i> | |
| Applying Graph-based SLAM Algorithm in a Simulated Environment | 312 |
| <i>Nazrul Azril Badioze Zaman, Shuzlina Abdul-Rahman, Sofianita Mutalib, Mohd Razif Shamsuddin</i> | |
| A survey on technique for solving web page classification problem | 319 |
| <i>Siti Hawa Apandi, Jamaludin Sallim, Rozlina Mohamed</i> | |
| Backpropagation Network Optimization Using One Step Secant (OSS) Algorithm..... | 327 |
| <i>Solikhun, Mochamad Wahyudi, M. Safii, Muhammad Zarlis</i> | |
| Resilient Algorithm In Predicting Fertilizer Imports by Major Countries..... | 338 |
| <i>Solikhun, Mochamad Wahyudi, M Safii, Muhammad Zarlis</i> | |
| Implementation of Data Mining In Predicting the Study Period of Student Using the Naïve Bayes Algorithm | 349 |
| <i>Sri Wahyuni, Murni Marbun</i> | |
| Optimizing Production Planning for Tempe Babe Within Goal Programming Method..... | 356 |
| <i>Sulindawaty, Syahril Effendi, Muhammad Zarlis, Herman Mawengkang</i> | |
| Enhanced Global and Local Curvature Properties for Corner Detection..... | 362 |
| <i>Suraya Abu Bakar, Muhammad Suzuri Hitam, Wan Nural Jawahir Hj Wan Yussof, Junaida Sulaiman</i> | |
| Coding mechanism and soft systems technique applied to integrate the fuzzy based Decision Support System with HRM factors in the SMEs of Bangladesh | 368 |
| <i>Tarnima Warda Andalib, Hasliza Abdul Halim, Muhammad Khairul Islam</i> | |
| Artificial Intelligence (AI): A Review of its Uses in Language Teaching and Learning | 377 |
| <i>Zuraina Ali</i> | |
| Students' Continuance of Using E-Learning System: A Review of Conceptual Frameworks..... | 383 |
| <i>N S A Rahman, A N Rosman, N A Sahabudin</i> | |

| | |
|--|-----|
| A Hybrid Screen Size Independent Authentication Scheme for Smart Devices | 391 |
| <i>Ahmad Faizuwan Bin Welhendri, Saiful Azad, Md Sayfullah Al Noman Ranak</i> | |
| Stability Analysis of Relay Access Protocol (RAP) using Fuzzy Logic in Wireless Sensor Networks | 400 |
| <i>Azamuddin Abdul Rahman, Mohd Nizam Mohd Kahar, Wan Isnii Sofiah Wan Din</i> | |
| Performance analysis on round trip available bandwidth estimation tools for wireless mesh network | 411 |
| <i>I E Kamarudin, M A Ameen, Z R M Azmi, M I U Ong, A S Lokman</i> | |
| Contextualizing The Framework For Knowledge Management System At The Organizational Level..... | 420 |
| <i>Mohammad Fakhruhnizam Mohammad, Rusli Abdullah, Marzanah Ab. Jabar, Rozi Nor Haizan Nor</i> | |
| Approaches in Creating Meta-requirement: A Systematic Literature Review | 429 |
| <i>Muhamad Idaham Umar Ong, Mohamed Ariff Ameen, Imran Edzereiq Kamarudin</i> | |
| User Requirement Validation: Challenge Exploration in Pre-project Execution | 437 |
| <i>Muhamad Idaham Umar Ong, Mohamed Ariff Ameen</i> | |
| Meta-Requirement Mapping Model | 453 |
| <i>Muhamad Idaham Umar Ong, Mohamad Ariff Ameen</i> | |
| Factors Determination MOOCs Continuance Intention: A Proposed Conceptual Framework | 460 |
| <i>N S Abdul Rahman, N S Wan Zainal Adli, A F Mat Raffei, N S N Ismail</i> | |
| Analysis of Mamdani Method To Increase The Level Of The Advantages Of Infrastructure Development For Optimal Network | 468 |
| <i>Niskarto Zandrato, M Zarlis</i> | |
| Investigating the Barriers of Health Information System implementation in Malaysian Public Hospitals..... | 474 |
| <i>Norsyaliza Abd Razak, Norafida Ithnin, Mohd Zamri Osman</i> | |
| Literature review on Functional Requirements for Function Point Analysis in Mobile Game | 481 |
| <i>Nur Atiqah Sia Abdullah, Nur Ida Aniza Rusli</i> | |
| Mobile Learning Application Impact Towards Student Performance in Programming Subject | 489 |
| <i>Nurul Farahah Abdul Halim, Danakorn Nincarean Eh Phon</i> | |
| A Code Profiling Model for StART | 498 |
| <i>Roslina Mohd Sidek</i> | |
| Preventive Self-Care Serious Games for Diabetes: A Game Design..... | 506 |
| <i>S N Ihsan, T A A Kadir, R Benedict, A R Abdullah</i> | |
| A Model of the Best Private University Selection in Aceh | 516 |
| <i>Taufiq, Muhammad Zarlis, Herman Mawengkang, Saib Suwilo</i> | |
| Requirement Prioritization Based on Non-Functional Requirement Classification Using Hierarchy AHP | 524 |
| <i>Thant Z. Win, Rozlina Mohamed, Jamaludin Sallim</i> | |

| | |
|---|-----|
| A Review of User Authentication Model for Online Banking System based on Mobile IMEI Number | 535 |
| <i>Waleed A. Hammood, Ruzaini Abdullah, Omar A. Hammood, Salwana Mohamad Asmara, Mohammed A. Al-Sharafî, Ali Muttaleb Hasan</i> | |
| Analysis of energy consumption in a wireless sensor network using fuzzy memberships function..... | 545 |
| <i>Wan Isnî Sofiah Wan Din, Mritha Ramalingam, Nuramera Abdullah</i> | |
| Applying Heuristics Evaluation to Improve the Usability of Malaysia Accounting Training Management System | 555 |
| <i>Zuraidah binti Mat Harun, Azma binti Abdullah, Kiriyaadhatshini a/p Gunaratnam</i> | |
| A Review of Cloud Computing Implementation in ASEAN Countries | 566 |
| <i>Asyran Zarizi Bin Abdullah, Wan Isnî Sofiah Wan Din, Zalili Binti Musa, Razulaimi Bin Razali</i> | |
| Coinhive’s Monero Drive-by Crypto-jacking | 579 |
| <i>Azizah Binti Abdul Aziz, Syahrulanuar Bin Ngah, Yau Ti Dun, Tan Fui Bee</i> | |
| Cybersecurity Risk Assessment of the University of Northern Philippines using PRISM Approach | 587 |
| <i>Bryan Irvin Lamarca</i> | |
| An open cloud-based platform for the creation and delivery of smart applications and services..... | 595 |
| <i>Heba M. Fadhil, Mohamed I. Younis, AbdulRahman A. Alsewari, Mohammed Abd-Alrazzaq, Ameer Toran Mahdi, Alaa A. Alomoush</i> | |
| Region of Interest-based Tamper Detection and Lossless Recovery Watermarking Scheme on MRI and X-ray Medical Images | 608 |
| <i>Jessie Ooi, Hui-Liang Khor, Siau-Chuin Liew</i> | |
| An Improved Image Steganography Scheme Based on RDWT and QR Decomposition | 616 |
| <i>Ke-Huey Ng, Siau-Chuin Liew, Ferda Ernawan</i> | |
| Reversible Watermarking Technique for Fingerprint authentication based on DCT | 631 |
| <i>Mohamed Lebcir, Suryanti Awang, Ali Benziane</i> | |
| Transforming Malware Behavioural Dataset for Deep Denoising Autoencoders | 645 |
| <i>Mohd Razif Bin Shamsuddin, Fakariah Hani Hj Mohd Ali, Mohd Shahril Bin Zainol Abidin</i> | |
| Types of anti-phishing solutions for phishing attack..... | 652 |
| <i>Siti Hawa Apandi, Jamaludin Sallim, Roslina Mohd Sidek</i> | |
| A Comparative Analysis on Artificial Intelligence Techniques for Web Phishing Classification | 660 |
| <i>Tengku Balqis binti Tengku Abd Rashid, Jamaludin bin Sallim, Yusnita binti Muhamad Noor</i> | |
| A Survey on Current Malicious JavaScript Behavior of infected Web Content in Detection of Malicious Web pages | 673 |
| <i>Wan Nurulsafawati Wan Manan, Mohd Nizam Mohmad Kahar, Noorlin Mohd Ali</i> | |
| Review of Hybrid Analysis Technique for Malware Detection | 681 |
| <i>Yus Kamalrul Bin Mohamed Yunus, Syahrulanuar Bin Ngah</i> | |

Author Index