

2023 15th International Conference on Software, Knowledge, Information Management and Applications (SKIMA 2023)

**Kuala Lumpur, Malaysia
8-10 December 2023**



**IEEE Catalog Number: CFP2382R-POD
ISBN: 979-8-3503-1656-8**

**Copyright © 2023 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:	CFP2382R-POD
ISBN (Print-On-Demand):	979-8-3503-1656-8
ISBN (Online):	979-8-3503-1655-1
ISSN:	2373-082X

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

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Content

Conference Background	i
SKIMA 2023 Organizing Committee	iii
General Chair's Message	v
Program At a Glance	vi
Keynote Speakers	vii
Supported By	xi
Papers	
<i>PolyLite: A Lightweight Transformer with Multi-scale Attention for Colorectal Polyp Segmentation</i>	1
Khaled ELKarazle, Valliappan Raman, Caslon Chua and Patrick Then	
<i>Unlocking the Potential of Non-Fungible Tokens: A Novel Approach for Privacy-Preserving in EHR</i>	6
Binura Ganegoda and K.A.D.C.P Kahandawaarachchi	
<i>The Influence of Load Growth on Nepal's Distribution Network: Examining the Integration of Electric Cooking Stove</i>	12
Sushil Paudel and Prashant Kumar Shah	
<i>A Survey of Machine Learning Applications in Microseismic Signal Recognition and Classification</i>	18
Hongmei Shu, Ahmad Yahya Dawod, Lei Mu and Worawit Tepsan	
<i>Short-Term Prediction of Water Level on Ciliwung River with Hybrid Neural Network</i>	24
Jodian Fariza Aji and Arian Dhini	
<i>Fault Detection Model of Rotating Machinery Using Machine Learning: Case Study of Oil and Gas Company</i>	29
Gilang Akbar and Arian Dhini	

<i>Investigating Adoption and User Experience of Digital Health Technologies Amongst Elderly Population</i>	34
Nourma Sabagh, Yvonne Lee and Lilian Anthonysamy	
<i>Unleashing the Power of Federated Learning in Fragmented Digital Healthcare Systems: A Visionary Perspective</i>	40
Marzia Hoque Tania and David Clifton	
<i>Students' Attention Classification During Class Lecture Using BCI and Machine Learning: A Pathway Towards Neurofeedback-based Learning</i>	45
Farhan Ishtiaque, Erina Binte Motahar, Md Sakibur Rahman, M. Ashraful Amin, Farhana Sarker and Khondaker Abdullah Al Mamun	
<i>Challenges in Distributed Software Development: A Systematic Review</i>	51
Humberto de Souza, Ivan Bentes, Jean Brito, Jorge da Silva, Saulo Gomes, Tainá Felix and Thayza Barros	
<i>Comparison SIFT and HOG Algorithm for Vehicle Classification in Malang Probolinggo</i>	57
Firnanda Al-Islama Achyunda Putra, Mardiana Andarwati and Galandaru Swalaganata	
<i>Does the Digital Payment System Affect the Poverty Score in India?</i>	63
Prashant Barge, Bhakti Agarwal, Dr. Shailesh Rastogi, Saumya Singh, Aman Pushp and Pracheta Tejasmayee	
<i>An Explainable AI Tool for Operational Risks Evaluation of AI Systems for SMEs</i>	69
M A Hossain, Naeimeh Nourmohammadi, Julius Hossain, M Hoque Tania, T A Han, D Pandit, S Joneidy and M M Hasan	
<i>Cross-race Effect in Face Recognition: An Observation on Southeast Asian</i>	75
Monyrath Buntoun and Fidero Kuok	
<i>Improvement Sidelobe Level Suppression of Circular Collaborative Beamforming through the Imperialist Competitive Algorithm</i>	81
Farah Adriana Samsul, Nik Noordini Nik Abd Malik, Najla Ilyana Ab Majid and Arnidza Ramli	

<i>Secure Image Authentication and Copyright Protection Using Integer Wavelet Transform</i>	87
Ferda Ernawan, Ng Ching Onn and Suraya Abu Bakar	
<i>Traffic Density Identification from UAV Images Using Deep Learning: A Preliminary Study</i>	93
Muhammad-Haziq Mohd-Tajudin, Shahbe Mat-Desa and Junaidi Abdullah	
<i>Innovation Helixes, Blockchain, Open Innovation and Phased Rewards in Promoting Circular Design in Waste Management: A Conceptual HCI Study</i>	99
Chien-Sing Lee, Yu-Han Eu, Jesslyn Xiao-Lin Chai, Wui-Ling Chai, Hannah Xiao-Ai Ho, Jia-Ying Tan, Muhammad Haziq Husni Morsim, Julia Than Aye and Ee-Yaang Siew	
<i>Reconfiguring Mainstream Vegetable Supply Chain in Sri Lanka to Reduce Distribution Related Post Harvest Losses & Emissions</i>	107
Chethana Chandrasiri, Subodha Dharmapriya and Asela Kulatunga	
<i>Elderly Standing Imbalance Detection Using Noise-Resilient Robust Mean Estimator and Deep Learning</i>	112
Drishya Raj, Shanfeng Hu, Nauman Aslam, Xiaomin Chen, Worasak Rueangsirarak and Surapong Uttama	
<i>Heart Rate Anomaly Detection Using Contractive Autoencoder for Smartwatch-Based Health Monitoring</i>	118
Keerthana Mannarappambil Sivan, Shanfeng Hu, Nauman Aslam, Xiaomin Chen, Pradorn Sureephong and Wit Suwit	
<i>Facial Feature-Based Microsleep Detection with High Precision Using Deep Learning</i>	124
Siti Zaleha Harun, Norafida Ithnin, Nur Haliza Abdul Wahab and Khairunnisa Abdul Kadir	
<i>Facial Beauty Analysis using Distribution Prediction and CNN Ensembles</i>	130
Ahmed Aman Ibrahim, Noah Hassan Ugail, Tazkia Hoodh Jayatileke, Millie Hope Saffery and Hassan Ugail	
<i>Voice Pathology Detection System using Machine Learning based on Internet of Things</i>	136
Akmal Hakim Sham, Nurul Mu'Azzah Abdul Latiff, Fahad Taha, Nurul Fariesya Suhaila Md Sazihan, Sanzida Rahman and Nor Aishah Muhammad	

<i>Nanocavity Waveguide in Two-Dimensional Photonic Crystal Structure</i>	142
Noratiqah Binti Abdul Muin, Nurul Ashikin Binti Daud and Nur Najahatul Huda Saris	
<i>Unravelling the Skills Deficit in Tech: An Educator's perspective</i>	146
Geraldine Bengsch, Antesar Shabut, Sorrel Harriet and Jim Dioc Kou	
<i>Physical Layer Investigation on the Coexistence Strategies of GPON, NGPON1 and NGPON2</i>	154
Sanzida Rahman, Nadiatulhuda Zulkifli and Akmal Hakim Sham	
<i>Designing a Rabbit-Inspired Hexapod Robot with Steed-Beast Mechanism</i>	159
Yong Ann Voern and Sophea Prum	
<i>Net0Chain: An AI-enabled Climate and Environmental Risks (CER) Framework for Achieving Net-Zero</i>	163
Md. Mahmudul Hasan	
<i>Industrializing Cambodia through Technology Transfer and Adoption</i>	169
Seingheng Hul, Raksmei Thinh, Noy Mounh, Sovann Chen, Molika Seng, Sokliep Pheng and Sovan Tep	
<i>Optimal Fish Feeding Strategy Through Behaviour Analysis for Dynamic Influencing Factors</i>	175
Yashashvisindhu Basha Boina, Alamgir Hossain, Kabir Kazi, Sureephong P, Prum Sopea, Slembrouck J, Sum Odum, Vaian V A and Wiraningsih E D	
<i>Content, Consumption, and Productivity: An Empirical Analysis of Compact Streaming and Reel Content's Effects on the Productivity of Today's Emerging Generation</i>	181
Ananya Subhra Trisha, Ishmam Bin Rofi, Mashiyat Mahjabin Eshita, Joy Biswas and Md. Sabbir Ahmed	
<i>Landscape-based Genetic Algorithm with Quantum Entanglement for Dynamic Optimization Problems</i>	187
Kangjing Li, Saber Elsayed, Ruhul Sarker and Daryl Essam	

<i>Switched Reluctance Generator: An Alternative Source for Microgrid</i>	193
Slamet Riyadi, Arifin Wibisono, Leonardus Heru Pratomo, Florentinus Budi Setiawan and Bishal Rimal	
<i>Popularity Prediction of Micro-blog Hot Topics Based on Time-series Data</i>	199
Mengji Yang, Aicha Seklouli, Haiqing Zhang, Lijuan Ren, Xi Yu and Yacine Ouzrout	
<i>Mapping Digital Readiness Model into Ontology</i>	205
Ildikó Szabó and Katalin Ternai	
<i>The Influence of Partial Shading on the Active Power Output of Solar Grid Tied Inverter</i>	209
Arifin Wibisono, Slamet Riyadi and Dimas Yanuardi	
<i>Design of Electric Resource for Solar Tunnel Dryer for Night and Cloudy Condition</i>	215
Florentinus Budi Setiawan, Slamet Riyadi, Leonardus Heru Pratomo and Arifin Wibisono	
<i>Sentiment Analysis of ChatGPT Healthcare Discourse: Insights from Twitter Data</i>	220
Roshan Kumar, Ramesh Kumar Ayyasamy, Anbuselvan Sangodiah, Kesavan Krishnan, Abdulkarim Kanaan Jebna and Suthashini Subramaniam	
<i>Hybrid Feature Selection Based Lightweight Network Intrusion Detection System for MQTT Protocol</i>	226
Sharifah Hafizah Syed Ariffin, Nordurratul Hikmah Mustaffa, Favian Dewanta, Ida Wahidah Hamzah, Muhammad Ariff Baharudin and Nur Haliza Abdul Wahab	
<i>NeuroXRFitness: Music Therapy for Mental Stress Relief Using EEG Signal</i>	231
Md Mahmudul Hasan, Silvia Cirstea and Meherun Nesa Sharaboni	
<i>Enhancing the Etiological Diagnosis of Uveitis with Artificial Intelligence: A Predictive Approach</i>	237
Insaf Mellakh, Tao Wang, Robin Jacquot, Nejb Moalla and Rabaa Youssef-Douss	
<i>Kun Khmer Posture Recognition using Body Landmarks and Comparative Experiments with Multiple Classifiers</i>	243
Prum Sophea, Cholsa Kosal and Bunnarath Saroeun	

<i>Cambodian Multi-Script License Plates Recognition: An Experimental Study</i>	249
Sophea Prum, Kimlong Seng, Mengthong Long and Yong Ann Voeurn	
<i>Application of Artificial Intelligence in Heuristic Models for Process Improvement</i>	255
Antal Kristof and Zoltán Szabó	
<i>Evaluating Product Data Modeling for Vaccine Lifecycle Management</i>	261
Sanae Allam, Adiba El Bouzekri El Idrissi, Aicha Sekhari Seklouli and Noredine El Kinani	
<i>An Intelligent Remote Consultation System for Oral Prevention in Children: A Case Study in Mongolia</i>	267
Lijuan Ren, Randa Cheima Bendjeddou, Giacomo Kahn, Aicha Sekhari Seklouli, Bat-Erdene Myagmar and Ariuntuul Garidkhuu	
<i>Comparison of Mel Frequency Cepstral Coefficient (MFCC) and Mel Spectrogram Techniques to Classify Industrial Machine Sound</i>	273
Nur Fatinah Md Hafiz, Syamsiah Mashohor, Mohammad Habib Shah Ershad Mohd Azrul Shazril, Mohd Fadlee A. Rasid and Azizi Mohd Ali	
<i>Ridesharing in Rail-Freight Transport and Use of Digital Aggregator: Prospects and Difficulties – A Developer’s Perspective</i>	279
Md Shakil Ahmed, Ravi Koirala, Andrii Prokhorchenko and Keshav Dahal	
<i>Integration of Extended Reality (XR) in Non-native Undergraduate Programmes</i>	285
Balaji Aresh, Parag Vichare, Keshav Dahal, Tony Leslie, Alyona Lovska and Glib Vatulia	
<i>Cardiac Deep Learning Model for Congenital Heart Disease Recognition</i>	293
Khalil Khan, Taimur Ahmad and Irfan Uddin	
<i>Traditional, Video and Extended Reality (XR) Assisted Flipped Classroom Teaching Methods: An Approach and Comparison</i>	298
Parag Vichare, Sushil Paudel, Bishal Rimal, Sujan Adhikari, Violetta Panchenko, Rameshwar Rijal and Keshav Dahal	
Authors Index	306