

2024 6th International Conference on Advancements in Computing (ICAC 2024)

**Colombo, Sri Lanka
12-13 December 2024**



**IEEE Catalog Number: CFP24V93-POD
ISBN: 979-8-3315-1788-5**

**Copyright © 2024 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:	CFP24V93-POD
ISBN (Print-On-Demand):	979-8-3315-1788-5
ISBN (Online):	979-8-3315-1787-8
ISSN:	2837-5416

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 CONTENTS

GreenGuard: Mobile Application for Real-Time Tea Leaves Disease Detection and Treatment Guidance.....	1
<i>Esandu Obadaarachchi, Damika Saputhanthri, Pramuditha Vithanarachchi, Yoosuf Zuhry, Rasanjalee Rathnayake</i>	
Automated BPMN Diagram Generation	7
<i>Farhath Ajmal, Poorna Wijekoon, Haritha Dhanamina, Yasiru Ravishan, Dasuni Nawinna, Buddhima Attanayaka</i>	
Sentiment Analysis using 1-of-m and Log-m Character-Level Embedding Algorithms with Deep Learning	13
<i>K. L. P. P. Liyanaarachchi, Hemalika T. K. Abeysundara, Saluka R. Kodituwakku</i>	
Advancing Marine Communication and Sustainability: A LoRa Based Ad Hoc Network System for the Fisheries Industry	19
<i>Chamodya Kumari, Pinsara Bandara, Lahiru Weerasinghe, Rithma Madhuthisara, Wishalya Tissera, Samitha P. Vidhanaarachchi, Virajini Godapitiya</i>	
Exploring Radiologists' Reluctance Towards Machine Learning Models and Explainable AI in Brain Tumor Detection.....	25
<i>Bhimaja Goonatillaka, Prasanna Haddela</i>	
Usability Evaluation of E-Learning Website	31
<i>Kanchala Senadeera, Dasuni Nawinna</i>	
Crafting Tomorrow's Trends with Automated Precision, Efficiency, and Faultless Excellence in Apparel Industry for Medium Scale Businesses.....	37
<i>H. M. Hiruni Herath, J. M. M. G. Jayaweera, J. M. Y. Jayasinghe, K. M. T. D. Randeni, Nelum C. Amarasena, Samadhi Rathnayake, S. N. Chandanathilaka</i>	
An Automated Model for Predicting Weekly Tea Auction Prices at Colombo Tea Auction for Specific Elevations and Grades	43
<i>Chandika Ariyaratne, Samantha M. Arachchi, Pandula Pallewatta, Kasun Karunanayaka, Gihan Seneviratne, Thilina Halloluwa</i>	
Success Factors of Requirement Engineering that Influence Software Development Efficiency	49
<i>Thilini Yapa, Dasuni Nawinna</i>	
A Generative Adversarial Network to Upscale the Resolution of Low-Resolution Galaxy Images.....	55
<i>Anuththara Hettiarachchi, Samadhi Rathnayake, Kapila Dissanayaka</i>	
From Chalkboards to Chatbots: A Systematic Literature Review on the Evolution of AI in Accounting Pedagogy.....	61
<i>Milani Koralage, Geeth Malagala, Nethmini Wijemunige, Sajana De Silva, Weerakoon Banda, Anuja Lokeshwara</i>	
Toddy: Multimodal Approach for Toddler Safety and Well-Being using Advanced Machine Learning	67
<i>Ashani Dewmini, Maleesha Shashindi, Kaveen Uththara, Gehan Sathushka, Kalpani Manathunga, Supipi Karunathilaka</i>	

“BeMyVoice” – A Communicative Platform to Assist Deaf Students	73
<i>Mohottige I. S. Kawshalya, Kiralawella P. Achini, Umeda Palliyaguru, Gamage I. Savishka, Jayamahamudalige D. Buddhika, Sadun C. Appuhamy, Punam K. S. Kumari, N. H. P. R. S. Swarnakantha</i>	
Telltale Twin - Predicting Latency of Unseen Subflow of Multipath Transmission Control Protocol using Machine Learning	79
<i>Tharindu Wijethilake, Sachintha Pitigala, Chinthanie Weerakoon, Chamath Keppetiyagama, Kasun De Zoysa</i>	
Detection of Fake Reviews in E-Commerce Platforms Related to Ayurvedic Cosmetics in Sri Lanka.....	85
<i>Shehani Fernando, Muditha Tissera</i>	
Integrated Smart Dam Control System using Machine Learning	91
<i>L. R. S. T. Lekamge, N. P. T. D. Samaranayake, N. V. Weerawarna, D. M. J. C. B. Dissanayake, H. M. S. C. Rathnayake, Nelum Amarasena</i>	
Optimizing User Experience in Mobile Travel Applications: A Study on Personalized Routing, Thematic Content, and Cultural Engagement.....	97
<i>Tharusha Perera, Nawanjana Samarahewa, Yasithri Jinasena, Dinuka Thilakarathna, Dharshana Kasthurirathna, Shalini Rupasinghe</i>	
GlowUp - Enhancing Salon Experience Through AI-Driven Customer Insights	103
<i>Anjali Kiriella, Randika Hewage, Himasha Abeyrathne, Oshadi Senevirathna, Samadhi Rathnayake, Thusithanjana Thilakarathna</i>	
Real-Time Quality Monitoring System for the Apparel Industry in Sri Lanka.....	109
<i>Kavindu Kasthurirathne, Minindu Thilakarathne, Chehan Weerasinghe, Minuli Samaraweera, Samadhi Rathnayake, Supipi Karunathilaka</i>	
Optimized Multi-Processor System-on-Chip (MPSoC) Design for Low-Resource JPEG Encoding.....	115
<i>Kanishka Gunawardana, Chandula Adhikari, Isuru Nawinne</i>	
Rear-End Collision Avoidance using Multi-Agent Deep Reinforcement Learning.....	121
<i>Ranuja Perera, Surith Arawwala, Shalika Harshamali, Yohan Perera, Samadhi Rathnayake, Nelum C. Amarasena, Sasadara Adikari</i>	
Predicting Employee Attrition & Employee Retention Period using Supervised Learning.....	127
<i>Dilina Muthugala, Samantha M. Arachchi, Pandula Pallewatta, Akila Maithripala, Gihan Seneviratne</i>	
Multi-Modal Behavior Classification using Audio Visual Data of Vanellus Indicus.....	133
<i>Vijini Tennekoon, Devinya Vidanage, Isuru Ariyananda, Sakuni Samar, Samadhi Rathnayake, Nelum C. Amarasena, Samitha Vidhanarachchi, Devaka Weerakoon</i>	
Estimating Story Points in Scrum: Balancing Accuracy and Interpretability with Explainable AI	139
<i>Isuru W. Gamage, R. M. U. A. Rathnayake, Thilina Halloluwa</i>	
Benefits and Implication in Artificial Intelligence (AI) Adoption in the Health Sector: A Survey of Cultural, Privacy, and Legal Issues in Nepal	145
<i>Sangam Ghimire, Janak Sitaula, Shubhashish Karki, Dipen Khatri, Sudan Jha</i>	
Machine Learning-Driven Toolkit for Sinhala Text-to-Speech and Spell Checker	151
<i>Navindu Praveen, Harinda Fernando, Manori Gamage</i>	

EduGuard – Mobile Application for Sex Education and Sexual Harassment Reporting for Sri Lanka.....	157
<i>Sithmi Udapolawatta, Nimesha Perera, Kalya Perera, Sajith Henarath, Uthpala Samarakoon, Dinithi Pandithage</i>	
Enhancing G.C.E. Ordinary Level Mathematics Through Adaptive Learning in Sri Lanka	163
<i>P. S. D. Fernando, H. P. D. E. R. Amarasekara, M. D. B. Rathnakumara, B. W. Amarakoon, Samantha Rajapaksha, Jenny Krishara</i>	
Dynamic Queue Management System for Multi-Cashier Supermarkets using IoT and Real-Time Monitoring.....	169
<i>Wuwani Perera, Hiruni Perera, Hasini Perera, Savindee Suraweera, Samadhi Rathnayake, Supipi Karunathilaka</i>	
Machine Learning and Browser Fingerprinting Based Approach for Web Bot Detection.....	175
<i>Gihan S. Pathirage, Kalpani Manathunga</i>	
An Integrated Study of Academic, Relational, Economic, and Social Factors Affecting University Students Happiness.....	181
<i>Abiraj Kailashwaran, L. J. Samarahewa, S. S. Senadheera, Inkithai Meiyalagan, Samantha Rajapaksha, Lakmal Ponnampereuma</i>	
Project ALVI: Privacy-Driven Defences: Federated Learning Security and Authentication	187
<i>Livindu Peiris, Aman Shaluka, Virushan Hasaranga, Iman Athauda, Kanishka Yapa, Samadhi Rathnayake</i>	
Mining Haulage Road Maintenance Prediction Dashboard Utilising Machine Learning Techniques.....	193
<i>Brad Purdon, Lasitha Piyathilaka, Jung-Hoon Sul, Daluwathu Preethichandra</i>	
Towards an Ontological Digital Forensic Investigation Framework for Autonomous Vehicles.....	199
<i>Oluwaseun Bakare, Nickson Karie, Reza Ryan, Iain Murray</i>	
A Multimodal Interaction System for Speech-Based Autism Intervention in Sinhala-Speaking Sri Lankan Children using the NAO Robot	205
<i>Aparna Jayawardena, Chan S. Manukalpa, Heshani Bopage, Poorna Panduwawala, Koliya Pulasinghe, Samantha Rajapaksha</i>	
Adaptive Continual Learning for Defect Detection in Dynamic Textile Manufacturing.....	211
<i>Savindu Harith, Chathura Rajapakse, Thilini Mahanama, Dinesh Asanka</i>	
A Comprehensive Threat Model for Autonomous Vehicle Communication Security	217
<i>Niranjan W. Meegammana, Harinda Fernando</i>	
The Impact of AI-Driven Educational Transformation in Sri Lanka's Higher Education.....	223
<i>Saroon M. Aflal, Sutharshan Shamugarajah, Kanagasabai Thiruthanigesan, Balarajan Balasubramaniam, Uthpala Samarakoon, Roshan G. Ragel</i>	
Galaxy Morphology Classification Based on VGG19 Deep Convolutional Neural Network.....	229
<i>Thrinith Fernando, Samadhi Rathnayake, Kapila Dissanayaka</i>	
Mindfulness: A Mental Health Aid for University Students	235
<i>Kevin Wijesuriya, Rashmika Jayasekara, Pasindu Dissanayaka, Manori Gamage, Samanthi Siriwardana</i>	
Enhancing Financial Sector Cybersecurity: A Multi-Component Framework for Supply Chain Risk Mitigation	241
<i>Suryaa Kiran, Yomal Praveen, Akila Silva, Yasith Bagya, Kavinga Yapa, Deemantha Siriwardana</i>	

IoT-Based Smart Beehive Monitoring System	247
<i>Nisal Liyanage, Chamindra Attanayaka, Tarinya Perera, Daniru Neilkumara, Isuru S. Bandara, Lakshman Chandrasiri</i>	
Deep Learning-Based Recognition System for Hand-Drawn Sketches by Children with Down Syndrome	253
<i>Tharindu Sampath, Ahinsha Kalpani, Sanjeevi Chandrasiri</i>	
A BERT-Based Approach to Keyword Search for Digital Evidence Analysis.....	258
<i>Gethmi Rathnayaka, Samesha Gonawala, Pawani Dananjana, Jithmi Arambawela, Amila Senarathne, Deemantha Siriwardena</i>	
Automated Monitoring and Analysis of Avian Behavior and Hatching Success using YOLOv8: A Case Study on Red-Wattled Lapwings	264
<i>Devinya Vidanage, Vijini Tennekoon, Isuru Ariyananda, Sakuni Samara, Samadhi Rathnayake, Nelum C. Amarasena, Samitha Vidhanaarachchi, Devaka Weerakoon, Shamen Vidanage</i>	
Design and Implementation of a Secure Documentation System for Robust Document Transfer and Access Control	270
<i>Mishara Jayathilaka, Hiranya Weerasinghe, Kithmi Gunawardana, Pinidu Samarasinghe, Harinda Fernando, Deemantha Siriwardena</i>	
A Fully Featured and Optimized Object Document Mapper for the Go Programming Language	276
<i>Shifan Mohamed, Sheronie Perera, Akalanka Perera, Yasindu Laksara, Anuradha Karunasena, Samantha E. R. Siriwardana</i>	
Promo-Zen: A Natural Language Processing Based Promotional Text Message Management System	282
<i>Chamath Udugampola, Nethmi Weerasingha</i>	
Improving Fake News Detection with a Mixture of Experts: Leveraging Sentiment Analysis and Sarcasm Detection as Core Expert Models	288
<i>Tharindu Gunasekara, Disira Thihan, Sansika Kodithuwakku, Dinuka Dissanayake, Harinda Fernando, Samitha Vidhanaarachchi, Archchana Sindhuhan</i>	
Sagittarius: Floating Self Navigating Robot for Monitor the Water Quality of Rural Reservoirs	294
<i>Nishan I. Pedige, Thaveesha Abeywarna, Randheera Amarasinge, Menuka N. Bandara, Anuradha Jayakody, Narmada Gamage</i>	
High-Resolution Optical Imaging Incorporated Non-Destructive Morphological Boundary Detection of Fruit Disorders: A Pilot Study.....	300
<i>Nethmi T. Hakmana, Nipun S. Kahatapitiya, Sasmitha Weerasinghe, Deshan Kalupahana, Bhagya N. Silva, Naresh K. Ravichandran, Daewoon Seong, Sangyeob Han, Seung Y. Lee, Hee-Young June, Mansik Jeon, Jeehyun Kim, Udaya Wijenayake, Ruchire E. Wijesinghe</i>	
Smart Water Management System for Rainwater Harvesting Tanks	306
<i>Sandali Dissanayake, Kanishka Jayarathna, Mehara Sahabandu, Kulanka Bandara, Thusithanjana Thilakarathna, Samitha Vidhanaarachchi, Kalpani Manathunga</i>	
Diabetic Retinal Disease Detection Through Transfer Learning Techniques	312
<i>Malaka Ernest, Sajeewa Godakanda, Sanjeevi Chandrasiri, Poorna Panduwawala</i>	
Combating Digital Deception: Machine Learning Approaches for Detecting Political Misinformation and Clickbait on Social Media.....	318
<i>Dewmini Harindi, Nirmal Perera, Chamath Liyanage, Hirushini Dematagoda, Harinda Fernando, Samadhi Rathnayake</i>	

Machine Learning Based Detection System for Identifying Deepfake Images and Social Bots	324
<i>Chamath Liyanage, Hirushini Dematgoda, Dewmini Harindi, Nirmal Perera, Harinda Fernando, Samadhi Rathnayake</i>	
An Integrated Framework for Demographic Analysis, Person Recognition, and Path Tracking in Surveillance Systems.....	330
<i>Siyumi Pathirana, Paboda Ratnayake, Kavinda Sandaruwan, Shafa Bishirhaft, Lakmini Abeywardhana, Dharshana Kasthurirathna</i>	
Deep Learning for Early Autism Screening: Analysis of Hand-Flapping Motions in Infants	336
<i>Lochani Ranasinghe, Sunera Perera, Sahan Perera, Janani Mayadunna, Dilshan De Silva, Samitha Vidhanaarachchi, Samadhi Rathnayake</i>	
Efficient Path Estimation via Sensor Fusion of IMU, GPS, and Wheel Encoder and Control Parameter Optimization.....	342
<i>Nisal Weerasinghe, Nushara Wedasingha, Lasantha Senevirathne</i>	
A Novel Mobile Application for Personalized Hair Care using Advanced Machine Learning Techniques.....	348
<i>Anjali Kiriella, Samadhi Rathnayake, Thusithanjana Thilakarthna</i>	
Enhancing Typing Dynamics Emotion Recognition: A Multi-Class XGBoost Approach for Accurate Sentiment Detection.....	354
<i>Sudesh Bandara, Tharindu Dasath, Senula Nanayakkara, Samadhi Rathnayake, Thusithanjana Thilakarthna</i>	
Facial Diagnosis Skin Care and Makeup Recommendation using Advanced Deep Learning Techniques.....	360
<i>Oshadi Senevirathna, Samadhi Rathnayake, Thusithanjana Thilakarthna</i>	
Deep Learning Framework for Exploring Customized CNN with Customer Demographics and Salon Visuals	366
<i>Randika Hewage, Samadhi Rathnayake, Thusithanjana Thilakarthna</i>	
An Intelligent Platform for Cricket Technique and Performance Improvement.....	372
<i>Anjana Madushan, Priyantha Fernando, Hesara Mahendra, Nowen Kottage, Sanvitha Kasthuriarachchi, Samantha Rajapaksha</i>	
SmartDine: A Comprehensive System for Enhancing Customer Satisfaction and Optimizing Business Operations in the Restaurant Context.....	378
<i>Kanishka Kumarasiri, Janitha Premarathne, Navinga Mendis, Monali Bandhuratne, Anuradha Karunasena, Lokesha Weerasinghe</i>	
Optimizing User Experience Through Machine Learning: A Review of Key Tools and Technologies.....	384
<i>Kulesh Abhayasundara, Gihan Thilakarthna, Diliru Nagahawatta, Lasitha Thilakarthna, Jagath Wickramarathne</i>	
CARA: A Hybrid Framework Integrating Swarm AI Agents and Knowledge Graphs for Advanced LLM Reasoning.....	390
<i>Nirodya Pussadeniya, Ruchira Wijesinghe, Udaya Wijenayake, Bhagya Silva</i>	
Enhancing Soft Skills in Autistic Children: The Next Generation of Mind Champ's Technological Approach	396
<i>Kalna Peiris, Ruchira Nelaka, Kalpani Manathunga</i>	

Telco Customer Churn Prediction using Composite Deep Learning Technique.....	402
<i>Chamika Ramanayake, Devinda Liyanage, Praveen Dhananjaya, Chamoda Kumara, T. G. I. Fernando</i>	
Assessing the Impact of Large Language Models on Problem-Solving Skills of Undergraduates - A Systematic Literature Review.....	408
<i>Fathima Riztha, Ruwan Wickramarachchi, Dinesh Asanka, Mathishi Disssanayke</i>	
Assisting Hearing Impaired Children by Personalized Gamification of Auditory Verbal Therapy	414
<i>Sudul Fernando, Chamodh Leo, Chanudi Tharushika, Randula Mawaththa, Jeewaka Perera, Samitha Vidhanaarachchi, Dharshana Kasthurirathna</i>	
Advanced Convolutional Neural Networks for Detecting and Quantifying Infections in Coconut Tree Tissue Cultures	420
<i>Anusha C. Heenkenda, Sathisrajan Nadaraja, Raveesha Hettiarachchi, Nethya Dias, Samadhi Rathnayake, Samitha Vidhanaarachchi, Vijitha Vidhanaarachchi</i>	
Enhancing Data Science Education: A Systematic Review of Gamified Learning Platforms for Decision-Making Skills Development.....	426
<i>Thakshanah Selvakumar, Chathura Rajapakse, Nirasha Jayalath</i>	
Integrating Deep Learning for Plant Growth Monitoring and Browning Disease Severity Identification in Coconut Tissue Culture	432
<i>H. M. S. N. Rajapaksha, W. A. D. A. Thiwanka, Wishalya Tissera, Samitha Vidhanaarachchi, Jenny Kishara, V. R. M. Vidhanaarachchi</i>	
The Advanced Digital Acne Type Diagnostic System	438
<i>Reezan Saleem, Zainab Zubair, Rashida Shahan, Nuha Nafas, Lakmini Abeywardhana, Dharshana Kasthurirathna, Janitha Dassanayake</i>	
Semantic Segmentation in Unmanned Aerial Vehicle Surveillance for Detailed Urban Tree Mapping and Species Classification	444
<i>S. M. R. B. Senanayake, H. M. K. K. M. B. Herath, S. L. P. Yasakethu, B. G. D. A. Madhusanka</i>	
VascularVision: Mixed Reality Based Teaching and Learning Environment for Cardiovascular Conditions	450
<i>Hashith Nissanka, Sajini Wijayasundara, Jude Rajarathne, Sahan Vidanagamage, Didula T. Arachchi, Pradeep K. W. Abeygunawardhana</i>	
User-Centric Design of Contactless Smart Wheelchair System for Elderly People	456
<i>A. C. Chamalsha, R. A. K. Nadeeshan, H. M. K. K. M. B. Herath, S. L. P. Yasakethu, Udesh Oruthota</i>	
Adaptive Learning Tool to Enhance Educational Outcomes for Students with Inattentive Attention Deficit Hyperactivity Disorder (ADHD)	462
<i>Oshada Thawalampola, Danuja Jayasuriya, Supun Kariyawasam, Madushi Makawita, Dinuka Wijendra, Jenny Joseph</i>	
Vision AI: Enhancing Ophthalmic Care with Advanced Detection Technologies	468
<i>S. M. K. S. Siriwardana, S. N. W. Gunasekara, W. U. Piyumantha, S. P. Thilakaratne, D. R. Wijendra, D. I. De Silva</i>	
Towards Holistic Crime Management Through Descriptive Analysis and Predictive Forecasting	474
<i>Tinaya Wijethunge, Sampath Edirisinghe, Mansik Jeon, Jeehyun Kim, Ruchire Wijesinghe, Bhagya Silva</i>	

Understanding Catchment Impacts: Enhanced Water Level Prediction with LSTM and Explainable AI.....	480
<i>Jaliya L. Wijayaraja, N. D. U. Gamage, P. V. N. U. Pallegangoda, Nalaka Priyashantha, W. B. M. R. Weerasekara, Pradeep K. W. Abeygunawardhana</i>	
Leveraging Smart Video-Based Learning to Enhance Student Engagement and Collaboration	486
<i>Chanukya Serasinghe, Nashali Perera, Devindu Samarasinghe, Madusha Muthusinghe, Malitha Wijesundara</i>	
Application to Enhance the Programming Knowledge of Children	492
<i>Anuga Dissanayake, Vishwa Lakpriya, Mahendran Sanjeevan, Ahamed Fahmi, Samanthi E. R. Siriwardana, Mihiri Samaraweera</i>	
Development of a Predictive IoT-Based System for Real-Time Air Quality Monitoring and Route Optimization.....	498
<i>M. I. M Inthikhaff, M. J. M. Rimas, J. M. D. Kumari, M. G. R. Pasan, K. A. D. C. P. Kahandawaarachchi, M. P. M. Wijesiri</i>	
Multi-Model System for Sustainable Coral Reef Conservation in Sri Lanka.....	504
<i>Anusara Weerasooriya, Dilshi Wanniarachchi, Semini H. Peiris, Nimesha Priyabandu, Samadhi Rathnayake, Samitha Vidhanaarachchi</i>	
ML and DL Model Comparison with Skin Tone and Dynamic Range Analysis for rPPG	510
<i>J. A. S. Y. Jayasinghe, Lakmini Malasinghe</i>	
A Machine Learning Approach for Context-Aware Input/Output Validation in Mobile Applications.....	516
<i>Kushantha De Silva, Thusithanjana Thilakartha</i>	
Effectiveness of Deep Learning and IoT for Disease Classification and Characterizing Tissue Culture Calli	522
<i>H. D. M. Shavindi, D. K. N. Kumarasiri, Wishalya Tissera, Samitha Vidhanaarachchi, Jenny Joseph, Vijitha Vidhanaarachchi</i>	
Assistive Cartesian Healthcare Robot for Forearm Vein Puncturing.....	528
<i>C. N. Perera, B. G. C. Ananda, S. M. U. S. Samarakoon, H. M. K. K. M. B. Herath, S. L. P. Yasakethu</i>	
Smart Walking Cane for Enhanced Mobility and Safety of Visually Impaired Residents.....	534
<i>W. H. D. De Mel, K. P. G. C. M. Karunaratne, C. N. Perera, H. M. K. K. M. B. Herath, S. L. P. Yasakethu</i>	
FlarePath: Advanced Vehicle Fire Safety and Monitoring with Rapid Emergency Dispatch Solutions.....	540
<i>Glen Anthick, Pasindu Dharmagunawardana, Dewmini Abeywardhana, Aveen Peramunage, Nelum C. Amarasekera, Deemanttha Siriwardana</i>	
Real World Data-Driven Agent-Based Modeling for Health Policy Insights During Epidemics	546
<i>Sashini Liyanage, Mahesha Viduranga, Mario De Silva, Roshan Godaliyadda, Vijitha Herath, Mervyn P. Ekanayake, Janaka Ekanayake</i>	
Unveiling Motion Patterns Through Unsupervised Clustering.....	552
<i>Pandula Thennakoon, Ravindu Rodrigo, Kalana Jayasooriya, Thiksigga Ragulakaran, Roshan Godaliyadda, Vijitha Herath, Mervyn P. Ekanayake, Janaka Ekanayake</i>	
Leveraging Large Language Models and Deep Learning for Wikipedia Quality Assessment	558
<i>Thisakya Gunatilaka, Supunmali Ahangama, Sapumal Ahangama</i>	

“AI-Driven SMART K9 CARE SYSTEM” – A Comprehensive System for Reducing Canine Anxiety During Owner Absence.....	564
<i>Isuru Udayanga, Maleesha Karunathilaka, Sandali Rathnayaka, Ashan Uthpala, Dinithi Pandithage, N. D. U. Gamage</i>	
Assessing Quality of Service Performance in SDN Controllers: POX vs. OpenDaylight.....	570
<i>Shashika Lokuliyana, Pipuni Wijesiri, Anuradha Jayakody, Pradeep K. W. Abeygunawardhana</i>	
Decoding Diabetics: Diabetic Retinopathy Detection using Machine Learning	575
<i>Venuganth Arunthavarajah, Wishalya Tissera, Karthiga Rajendran</i>	
Adapting Pedagogical Frameworks to Online Learning: Simulating the Tutor Role with LLMs and the QUILT Model	581
<i>Sandaru Madhubhashana, Vibhashana Ranhinda, Dineth Jayakody, Lakmuthu Shavinda, Malithi Nawarathne, Prasanna Haddela</i>	
Enhancing Image Transmission Efficiency: Semantic Communications with Variational Autoencoders.....	587
<i>Oshadhi Gunathilake, Dushantha N. K. Jayakody</i>	

Author Index