2018 IEEE International Conference on Information and Automation for Sustainability (ICIAfS 2018)

Colombo, Sri Lanka
21 – 22 December 2018

IEEE Catalog Number: CFP1809B-POD
ISBN: 978-1-5386-9419-0

Copyright © 2018 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:	CFP1809B-POD
ISBN (Print-On-Demand):	978-1-5386-9419-0
ISBN (Online):	978-1-5386-9418-3
ISSN:	2151-1802

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

Page No	Paper Title	Authors
1	Cost based important attributes identification for early detection of Chronic Kidney Disease	A. Nishanth, S. Rishikesan
7	CIS: An Automated Criminal Identification System	Kavushica Rasanayagam, Kumarasiri S.D.D.C, Tharuka W.A.D.D, Samaranayake N.T, Dr. Pradeepa Samarasinghe, Samanthi E.R. Siriwardana
13	Augmented Reality Based Smart Supermarket System with Indoor Navigation using Beacon Technology (Easy Shopping Android Mobile App)	Jayananda P.K.V, Dodampege L.N, D.H.D. Seneviratne, Lakshani A.M.B, Dr. Pradeep Abeygunawardhana
19	Feasibility Study of a Novel Cross Assembled Multi-quadrotor Unmanned Aerial Vehicle	Roshan Lalantha, Rohan Munasinghe
25	A Refined POS Tag Sequence Finder for Tamil Sentences	Ratnasingam Sakuntharaj, Sinnathamby Mahesan
31	Role of Campus WiFi Infrastructure for Occupancy Monitoring in a Large University	Iresha Pasquel Mohottige, Thanchanok Sutjarittham, Nixon Raju, Hassan Habibi Gharakheili, Vijay Sivaraman
36	Voice-based Road Navigation System Using Natural Language Processing (NLP)	Pooja Withanage, Tharaka Liyanage, Naditha Deeyakaduwe, Eshan Dias, Samantha Thelijjagoda
42	Policies Based Container Migration Using Cross-Cloud Management Platform	Kugathasan Janarthanan, Peramune P.R.L.C, Ranaweera A.T, Theviyanthan Krishnamohan, Lakmal Rupasinghe, Kalpa Kalhara Sampath, Chethana Liyanapathirana
48	Perceptual Frequency Scale-based Filters for Replay Spoofing Attack Detection	Buddhi Wickramasinghe, Phu Ngoc Le, Eliathamby Ambikairajah, Julien Epps
53	Development of Demand Response Management System for Microgrid	Nor Su'aida Yusof, Abu Zaharin Ahmad, Mohd Shafie Bakar
59	Energy-Efficient Mobile Edge Hosts for Mobile Edge Computing System	Shanmuganathan Thananjeyan, Chien Aun Chan, Elaine Wong, Ampalavanapillai Nirmalathas
65	Analysis of distribution system losses due to harmonics in IESCO	Basit Ali, A.A. Khan, Imran Siddique
71	Trustworthy MANET Routing ESTAODV Implementation	Lakmal Rupasinghe, Chamira Nawarathna, M.A.J. Niroshan, K.A.H. Kodithuwakku, M.A.S.H. Kularathna, Liyanage S.C.G
77	Optimizing the Operation of a Hybrid Solar Assisted Ground Source Heat Pump System	Hansani Weeratunge, Simon Dunstall, Julian de Hoog, Guillermo Narsilio, Saman Halgamuge
82	Role of Trust in OAuth 2.0 and OpenID Connect	Kavindu Dodanduwa, Ishara Kaluthanthri
86	Centralized Road Infrastructure Information Collection and Processing System for Sri Lanka	Munsif Musthafa, Saranki Magenthirarajah, Aaquiff Ahnaff

		Rauf, Kiruthiga Balendran, Nuwan Kodagoda, Disni Sriyaratna
92	Advances in Future Extraction and Modelling for Short Duration Language Identification	Sarith Fernando, Saad Irtza, Vidhyasaharam Sethu, Eliathamby Ambikairajah
98	Online Learning Resources Finder Based on Computer Programming Domain	Kasun Somadasa, Monarindu Karunadhipathi, Nishan Wickramasinghe, Sampath Subasingha, Nuwan Kodagoda, Kushnara Suriyawansa
103	Long-term Solar Irradiance Forecasting Approaches – A Comparative Study	Wathmini Sharika, Lakchani Fernando, Ahilan Kanagasundaram, Ragupathyraj Valluvan, Anantharajah Kaneswaran
109	Fuzzy Logic Controller vs PID Controller for Real Time Magnetic Levitation System	Singhe Wijesinghe, T.M.W. Vithanawasam, H.D.N.S. Priyankara
114	Optimization of Volume & Brightness of Android Smartphone through Clustering & Reinforcement Learning ("RE-IN")	J.S.D.M.D.S. Abeywardhana, E.M.W.N. De Silva, I.G.A.G.S. Gallanga, L.N. Rathnayake, Jagath Wickramarathne, Disni Sriyaratna
120	Analyzing the Location Feasibility for Retail Businesses using Market Location Factors	Lanil Marasinghe, Mavinda Rupasinghe, Bhathiya Kumarasinghe, Milinda Perera, Samantha Thelijjagoda
125	Efficient Agent Based Trust Threshold Model for Healthcare Cloud Applications	S. Rajasingham, U.S. Premarathne
131	Automated Exam Paper Marking System for Structured Questions and Block Diagrams	R.R.A.M.P. Jayawardena, G.A.D. Thiwanthi, P.S. Suriyaarachchi, K.I. Withana, C. Jayawardena
136	Self-controlled Robot for Collection of Light Weight Waste in a Ground Area	N.A.I. Supasan, W.A.L.U. Kaushalya, S.M.D.P. Maduwantha, M.G.A. Yasini, S.J.K. Wijenayake, K.A.S.H. Kulathilake, Upali Kohomban
142	Mobile App to Support People with Dyslexia and Dysgraphia	Isuru Avishka, Kalana Kumarawadu, Akalanka Kudagama, Mihiran Weerathunga, Samantha Thelijjagoda
148	Case Study on an Adaptive Traffic Controlling Method Using Real-time Traffic Streaming	H.M.R. Shanaka, L.C.P. Pussella, R.M.P.N. Rathnayake, W.A.M.N.C. Ariyarathna, P.D.R. Viduruwan, K.A.S.H. Kulathilake
154	Vision Based Automated Biomass Estimation of Fronds of Salvinia molesta	Senura Dinalankara, Tharaka Sahan Chandrasiri, Dakshitha Dias, Kokila Hettiarachchi, Ranga Rodrigo, Upeka Premaratne
160	Support Vector Ordinal Regression for Depression Severity Prediction	Sadari Jayawardena, Julien Epps, Eliathamby Ambikairajah
165	A Review of Disturbance Detection in Islanded Microgrids	Anusuya Arunan, Jayashri Ravishankar, Eliathamby Ambikairajah

171	IOT-based Power Management System with Home Environment Control	Gunarathna, Damith; Jayakody, Jayakody Arachchilage Don Chaminda; Rafeek, Rukshana; Thenuwara, Udantha; Thiruchchelvarajan, Shankavi;
177	Interactive Game Application for Garbage Disposal using Image Processing and Location Based Services	Panchali Nanayakkara, Tharushan Rathnaweera, Supuni Weerasingha, Yashodha Pieris, Ravihansa Rajapakse
182	Emotion Detection in videos using Non Sequential Deep Convolutional Neural Network	Haider Riaz, Usman Akram
188	Self-service workflows for recommendation systems using online machine learning services	Bryan Ng
194	A methodology to Evaluate the Usability of Security APIs	Chamila Wijayarathna, Nalin A.G. Arachchilage
200	An Approach to Improve the Perfomance of Web Proxy Cache Replacement Using Machine Learning Techniques	Sivaraj Nimishan, Sriskandarajah Shriparen
206	An Ontology-based Approach to Automate the Software Development Process	Kathirgamasegaran Athiththan, Selvaratnam Rovinsan, Srijeevahan Sathveegan, Nahanaa Gunasekaran, Kamila S.A.W. Gunawardena, Dharshana Kasthurirathna
212	Intelligent Enterprise Security Enhanced COPE (Intelligent ESECOPE)	Samarathunge R.D.S.P, Perera W.P.P, Ranasinghe R.A.N.I, Kahaduwa K.K.U.S, Senarathne A.N, Abeywardena K.Y
218	Towards a Smart City: Application of Optimization for a Smart Transportation Management System	Chamindu Thiranjaya, Randika Rushan, Prabath Udayanga, Udeshika Kaushalya, Wndhya Rankothge
224	Enabling Deep Learning on Embedded Systems for IoT Sensor Data Analytics: Opportunities and Challenges	Tharmakulasingam Sirojan, Toan Phung, Eliathamby Ambikairajah
229	Using Pre-trained Models As Feature Extractor to Classify Video Styles Used in MOOC Videos	Saugat Aryal, Anjana Shriwantha Porawagama, Makulle Gedara Sajeeva Hasith, Sachini Chloe Thoradeniya, Nuwan Kodagoda, Kushnara Suriyawansa
234	Comparative Analysis of Different Features and Encoding Methods for Rice Image Classification	Vijayaratnam Emulse Nirmalan, Ruwan D. Nawarathna, Siyamalan Manivannan
239	Low Cost Portable Wind Power Generation for Mobile Charging Applications	Ratnakumar Rajan, Vinushika Panchalogaranjan, Visvakumar Aravanthan, Tharmarajah Thiruvaran, Vinothine Shanmugarajah
244	Partial Discharge Testing of Form-Wound Air-Core Armature Windings for a High-Frequency PMSM for Electric Aircraft Applications	Thanatheepan Balachandran, Samith Sirimmana, Austin Jin, Dr. Kiruba S. Haran
250	Silhouette Image Classification Using Bag of Local Features	T. Bamini, B. Mayurathan

255	Design and Characterization of a 1-axis Compact Torque Sensor for a Collaborative Robot Arm	Thushara Sandakalum, Suranga Suraji, Indika Weerasekara, Thilina Dulantha Lalitharatne, Damith Suresh Chathuranga
261	Can We Classify an IoT Device using TCP Port Scan?	Arunan Sivanathan, Hassan Habibi Gharakheili, Vijay Sivaraman
265	An Augmented Approach for Recognizing Sri Lankan Currency Notes	B. Kogilawanee, A. Ramanan
270	A Hybrid Decision Tree for Printed Sinhala Character Recognition Using SVMs	S.P.D. Anuraj, E.Y.A. Charles
276	One-pass Keypoint Selection to Construct Codebook for Patch-based Object Classification	Veerapathirapillai Vinoharan, Amirthalingam Ramanan
282	A Novel Filter-Wrapper Based Feature Selection Approach for Cancer Data Classification	M.M. Mohamed Mufassirin, Roshan G. Ragel
288	Optimal-PID based on QRAWCP approach for SIMO Systems with Experimental Validation	Sandeep D. Hanwate, Soumy adeep Bose, Yogesh V. Hote
294	Significance of Physical Parameters to Optimize the Bed Tea Leaves' Temperature During Fermentation Stage of Black Tea Manufacturing Process	S. Tharaga, B.J. Watawana, W.K.I.L. Wanniarachchi, K.W.S.N. Kumari, D.D.C. Wanniarachchi
299	A Robust Driver for RGB LEDs	Shaheer Shaida Durrani, Abu Zaharin Ahmad, Bakri Hasan, Mohd Shafie Bakar
305	Haptic Information Gain in Remote Soft Tissue Examination Using a Controllable Stiffness Robotic Probe	Ashraf Weheliye, Prokar Dasgupta, Thrishantha Nanayakkara
311	Sinhala Speech to Sinhala Unicode Text Conversion for Disaster Relief Facilitation in Sri Lanka	Nishadi Prasangini, Harshani Nagahamulla
317	Assessment of System Reliability in Presence of Cyber Attack Risk on PMU Data	Anton C. Sameepa Hettiarachchige-Don, Arun Kaarthick Manoharan, Lakshmi Gayatri Pedaprolu & Visvakumar Aravinthan
322	Arduino based soil moisture analyzer as an effective way for irrigation scheduling	Seeralakandapalan Sayanthan, Tharmarajah Thiruvaran, Nadarajah Kannan
326	An Investigation about the Scalability of the Spoofing Detection System	Gajan Suthokumar, Kaavya Sriskandaraja, Vidhyasaharan Sethu, Chamith Wijenayake, Eliathamby Ambikairajah
331	Bearing Fault Prediction Using Current Signature Analysis in Electric Water Pump	Mr.M.Yuvaraj, Mr.P. Elzhiloan, Dr.T. Thiruvaran, Dr.V.Aravinthan, Mr. B. Thanatheepan.
336	Metaheuristic Algorithm Similarity Analysis Based on Performance Metric Mapping of Fractional Ranking	Yong-Wei Zhang, Saman K. Halgamuge,
342	Smart Talents Recruiter – Resume Ranking and Recommendation System	Ashif Mohamed, Wickram Bagawathinathan, Usama Iqbal, Shahik Shamrath, Anuradha Jayakody