

2019 Conference on Next Generation Computing Applications (NextComp 2019)

**Mauritius
19 – 21 September 2019**



**IEEE Catalog Number: CFP19NEY-POD
ISBN: 978-1-7281-1461-3**

**Copyright © 2019 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:	CFP19NEY-POD
ISBN (Print-On-Demand):	978-1-7281-1461-3
ISBN (Online):	978-1-7281-1460-6

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

List of Papers

Paper Title and Authors

Using Neural Networks to Assist in Scheduling Automated Testing in an Agile Environment.....1
Laurie Butgereit

A new Unequal Error Protection scheme for Coded MIMO systems using Hierarchical 4/M
 QAM modulation.....5
Mussawir Hosany and Girvana Ramanna

Confronting Challenges Facing Enterprise Systems Education in Africa.....11
Gwamaka Mwalemba

Determinants of E-Government Use in Developing Countries: The Influence of Privacy and
 Security Concerns.....16
Anass Bayaga and Jacques Ophoff

Generation of traversability maps based on 3D point-clouds.....23
 Domen Mongus and **Simon Juric**

Interoperability of Managing Knowledge and Learning Processes for Sustainable
 e-Education.....28
Ulrich Schmitt

Bytecode Heuristic Signatures for Detecting Malware Behavior.....34
 Gheorghe Florin Hajmasan, **Alexandra Mondoc** and Octavian Creț

Energy Autonomous and Smart Outdoor PV Module Characterisation Facility.....40
Yatindra Kumar Ramgolam, Heman Shamachurn and Jonathan Yannick Coret

Threat Modeling and Security Issues for the Internet of Things.....46
Amar Seeam, Ochanya S.Ogbeh, Shivanand Guness and Xavier Bellekens

A Lightweight Version of National Performance Indicator Ontology (NPIonto).....54
Oarabile Sebubi, Irina Zlotnikova and Hlomani Hlomani

An Analysis of Assessment Approaches and Maturity Scales used for Evaluation of
 Information Security and Cybersecurity User Awareness and Training Programs: A
 Scoping Review.....60
 Khangwelo Muronga, Marlien Herselman and **Adele Da Veiga**

Challenges Ahead in Cyber Physical Systems: A Coding Survey.....66
 Kingsley Igbokwe, Amar Seeam, Shivanand Guness and **Praveer Towakel**

Hazard Perception Training and Assessment of Young Drivers in Mauritius: Investigating
 the Acceptance of the MauHazard Tool.....72
 Aditya Santokhee, Girish Bekaroo and **Divesh Roopowa**

- TangiNet: A Tangible User Interface System for Teaching the Properties of Network Cables.....78
Dwijesh Gajadur and Girish Bekaroo
- Mobile-Based Carbon Footprint Calculation: Insights from a Usability Study.....84
Girish Bekaroo, Divesh Roopowa and Chandradeo Bokhoree
- Requirements for IoT Forensics.....90
Jaco-Louis Kruger and Hein Venter
- Software Defined Networks : Issues and Challenges.....97
Bhargava Sokappadu, Avishek Hardin, Avinash Mungur and Sheeba Armoogum
- Exploring the Use of Tangible User Interfaces for Teaching Basic Java Programming Concepts: A Usability Study.....102
Amaan Nathoo, Tanveer Gangabissoon and Girish Bekaroo
- Detection of genome sequence outliers across pan-genomes.....107
Lakshmi Sujeeun, Shakuntala Baichoo, Zahra Mungloo-Dilmohamud and Yasmina Jaufeerally-Fakim
- Moodleboard : dynamic and interactive indicators for teachers and pedagogical engineers.....113
Véronique Sébastien, Didier Sébastien, Ilias Timol, Dominique Gay, Alain Cucchi and Christophe Porlier
- Building a Digital Health Innovation Ecosystem Framework through Design Science Research.....118
Gloria Ejehiohen Iyawa, Marlien Herselman and Adele Botha
- Smart Library Seat, Occupant and Occupancy Information System, using Pressure and RFID Sensors.....124
Okoronkwo Chinomso Daniel, Visham Ramsurrun and Amar Kumar Seeam
- Securing Industrial Wireless Networks: Enhancing SDN with PhySec.....129
Christoph Lipps, Dennis Krummacker and Hans Dieter Schotten
- An ERP Adoption Model for SMEs based on CSFs.....136
Mohammad Umeir Mayaram, Amrik Dussoye and Zarine Cadarsaib
- Using a Gamification Approach to teach ERP in Higher Education.....142
Poorvasee Munogee, Hema Moctaram and Zarine Cadarsaib
- Augmented Reality Intelligent Lighting Smart Spaces.....148
Jannish Purmaissur, Amar Seeam, Shivanand Guness and Xavier Bellekens
- Holistic User eXperience in Mobile Augmented Reality using User eXperience Measurement Index.....153
Fahad Ahmed Satti, Jamil Hussain, Hafiz Syed Muhammad Bilal, Wajahat Ali Khan, Asad Masood Khattak, Ju Eun Yeon and Sungyoung Lee

SMART Campus Library System.....	159
<i>Bibi Raissah Oderuth, Kosheta Ramkissoon and Roopesh Kevin Sungkur</i>	
Computational Simulation Results in Power Systems Operation to Integrate Reliability in the Security Constrained Optimization Problem.....	165
<i>Morteza Sheikh, Jamshid Aghaei, Ahmad Nikoobakht, Gerardo J. Osório, Miadreza Shafie-khah, Mohamed Lotfi and João P. S. Catalão</i>	
Query Reduction for an Effective Japanese Statute Law Retrieval.....	171
<i>Edwin Thuma, Nkwebi Peace Motlogelwa, Tebo Leburu-Dingalo and Monkogogi Mudongo</i>	
Determining the Location of a Concealed Handgun on the Human Body using Marker-Less Gait Analysis and Machine Learning.....	175
<i>Henry Muchiri, Ismail Ateya and Gregory Wanyembi</i>	
Implementing personalised learning for mixed ability students for computer programming in a learning environment.....	181
<i>Vijayprakash Chandreekant Ahku and Shireen Panchoo</i>	
An Improved Reversible Data Hiding Scheme through Novel Encryption.....	189
<i>Manikandan V M and Masilamani V</i>	
Framework for personalised online education based on learning analytics through the use of domain-specific modelling and data analytics.....	194
<i>Sofia Meacham, Detlef Nauck and Han Zhao</i>	
Innovative Architecture for Dynamic Solar Data Acquisition and Processing: A Case for Mauritius and Outer Islands.....	201
<i>Aatish Chiniah and Yatindra Kumar Ramgolam</i>	
Categorising AWS Common Crawl Dataset using MapReduce.....	207
<i>Aatish Chiniah, Ayaz Chummun and Zaid Burkutally</i>	
Scrum Meeting Tool for Knowledge Capture and Sharing.....	213
<i>Mohammad Anass Korimbocus, Thaveer Singh Towokul and Soulakshmee D. Nagowah</i>	
DriveMU: A Real-time Road-Traffic Monitoring Android Application for Mauritius.....	219
<i>Tirathraj Ramburn, Deevash Badoreea and Sudha Cheerkoot-Jalim</i>	
Pattern representation using Neuroevolution of the augmenting topology (NEAT) on Keystroke dynamics features in Biometrics.....	227
<i>Purvashi Baynath, K.M.Sunjiv Soyjaudah and Maleika Heenaye-Mamode Khan</i>	
Machine Learning Algorithm on Keystroke dynamics Fused pattern in biometrics.....	234
<i>Purvashi Baynath, K.M.Sunjiv Soyjaudah and Maleika Heenaye- Mamode Khan</i>	
A Crowdsourced Mobile App Architecture for Plotting User Rated Free WiFi Hotspots.....	240
<i>Humairaa Furreedun, Amreen Gokhool and Mohammad Chuttur</i>	
From Desktop to Mobile View: A Simplified Approach to Mobile Website Development.....	245

Priyanca Jogoo, Bibi Ishrat Shagoofah Golamgous and Yasser Chuttur

A Blockchain Based Framework for Fraud Detection.....251

Pankaj Joshi, Sachin Kumar, Divya Kumar and Anil K. Singh

Enabling the Disabled using mHealth.....256

Vidharsh Chuckun, Ganeshwaree Coonjan and Leckraj Nagowah

Smart Aquaponics with Disease Detection.....262

Roysing Barosa, Sayed Issamuddine Sayed Hassen and Leckraj Nagowah