

2017 8th International Conference on Information, Intelligence, Systems & Applications (IISA 2017)

**Larnaca, Cyprus
27-30 August 2017**



**IEEE Catalog Number: CFP1734V-POD
ISBN: 978-1-5386-3732-6**

**Copyright © 2017 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:	CFP1734V-POD
ISBN (Print-On-Demand):	978-1-5386-3732-6
ISBN (Online):	978-1-5386-3731-9

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

IMO Forensics in Android and Windows Systems.....	1
<i>Ahmad Ababneh, Mohammad Abu Awwad and Mohammed Al-Saleh</i>	
Health Monitoring Web Platform for Real-Time Expert-User Interaction	7
<i>Achilleas Achilleos, Alexandros Yeratziotis, Christos Mettouris, Kyriakos Evripidou, Paraskevi Hadjinikolaou and George Papadopoulos</i>	
A Survey of Fuzzy Cognitive Maps Forecasting Methods.....	13
<i>Mohammed Al-Gunaid, Maxim Shcherbakov, Konstantin Zadiran and Aleksej Melikov</i>	
Towards the Memory Forensics of OOP Execution Behavior	19
<i>Ziad Al-Sharif, Mohammad Al-Saleh and Luay Alawneh</i>	
Towards hierarchical cooperative analytics architecture in Law Enforcement Agencies	25
<i>Luay Alawneh, Mahmoud Said and Ziad Al-Sharif</i>	
Reasoning about Users Actions in a Mobile Environment using a Combination of HPR with MAUT	31
<i>Efthimios Alepis, Katerina Kabassi and Maria Virvou</i>	
A crowd sourced based application for sharing data between mobile devices.....	37
<i>Efthimios Alepis and Aristeia Kontogianni</i>	
Mobile Application Providing Accessible Routes for People with Mobility Impairments ...	43
<i>Efthimios Alepis and Spyro Nita</i>	
An Architecture and Implementation of the Actor Model of Concurrency	48
<i>Kwabena Aning and Keith Mannock</i>	
High Precision Handedness Detection Based on Short Input Keystroke Dynamics	54
<i>Pentel Avar</i>	
Implementing real-life indoor positioning systems using machine learning approaches	59
<i>Matthias Becker</i>	
Energy Service Contract as a key factor of Innovative Development of Budgetary Organizations.....	65
<i>Mikhail Bednarchuk, Anton Tyukov, Alexander Sokolov, Maxim Shcherbakov and Timur Janovsky</i>	
Defacement Response via Keyed Learning	71
<i>Francesco Bergadano, Fabio Carretto, Fabio Cogno and Dario Ragno</i>	
An Information System for Deciding and Acting ahead of Time in Sensing Enterprises....	77
<i>Alexandros Bousdekis, Nikos Papageorgiou, Babis Magoutas, Dimitris Apostolou and Gregoris Mentzas</i>	
Evaluation of a 3D Physics Classroom with Myo Gesture Control Armband and Unity....	83
<i>Neil Patrick Brillantes, Haram Kim, Rommel Feria, Ma. Rowena Solamo and Ligaya Leah Figueroa</i>	
Security strategies for managing mobile devices in SMEs - A theoretical evaluation	89
<i>Martin Brodin</i>	

Generalizing and Composing Goals and Objects in a Scenario Together for Requirements Analysis	95
<i>Yoshihide Chubachi and Haruhiko Kaiya</i>	
A Scalable and Efficient Solution to R Deployment in Industry with Application to Machine Learning	101
<i>Mohamed Dermouche, Cyril Ferey, Etienne De Rocquigny and Mohamed Belazar</i>	
Towards A Framework For Tensor Ontologies Over Neo4j: Representations And Operations	105
<i>Georgios Drakopoulos, Andreas Kanavos, Phivos Mylonas, Spyros Sioutas and Dimitrios Tsolis</i>	
A 3D SERIOUS GAME FOR CULTURAL EDUCATION	111
<i>Vangelis Drosos, Athanasia Alexandri, Dimitrios Tsolis and Christos Alexakos</i>	
Implement the Intelligent Carpet System and Application Design Based on Sensor Technique	116
<i>Mack J. Du</i>	
The proposal of security and safety solution to the soft targets	120
<i>Lucia Duricova and Martin Hromada</i>	
A Triggering Mechanism for End-to-end IoT eHealth System with Connected Ambulance Vehicles	126
<i>Amr Elsaadany</i>	
Ampacity Level Monitoring Utilizing Fuzzy Logic Theory in Deregulated Power Markets ..	132
<i>Rafik Fainti, Miltos Alamaniotis, Lefteri Tsoukalas, Maria Karasimou and Ioannis Tsionas</i>	
Digital Gamified Effort Feedback Mechanism to Enhance Information Coverage in Multi-Attribute Decision-Making	138
<i>Josef Frysak and Edward W.N. Bernroider</i>	
Performance Engineering of Image Processing Systems Through Benchmarking Techniques	144
<i>Daniel Garcia and Francisco de La Calle</i>	
Business Programming with REXX: Bringing Programming to Business Students	150
<i>Eva Katharina Gerger</i>	
A Robust Watermarking Technique in Spatial Domain using Closeness Coefficients of Texture	155
<i>Musab Ghadi, Lamri Laouamer, Laurent Nana and Anca Pascu</i>	
Identifying unintentional falls in action videos using the 3D Cylindrical Trace Transform ..	161
<i>Georgios Goudelis, Georgios Tsatiris, Kostas Karpouzis and Stefanos Kollias</i>	
EnDiCE: Enhanced Digital Cultural Experience	167
<i>Charalampos Goulas, Georgios Pavlidis, Dimitrios Chondrogiannis and Athena Tzoumanika</i>	
Challenges with BI adoption in SMEs	172
<i>Kristens Gudfinnsson and Mattias Strand</i>	

Multiobjective Evolution of Deep Learning and its Robotic Applications	178
<i>Delowar Hossain and Genci Capi</i>	
Semantic Classification of Tweets: A Contextual Knowledge based Approach for Tweet Classification.....	184
<i>Nazura Javed Kutty and Muralidhara B.L</i>	
Robot painting recognition based on Deep Belief Learning.....	190
<i>Xiao Jianqiang and Genci Capi</i>	
Towards the Mapping of UML Class Diagrams to Association-Oriented Database Metamodel Schemata	195
<i>Marcin Jodłowiec and Marek Krótkiewicz</i>	
Using Tripartite Graphs to Make Long Tail Recommendations.....	201
<i>Joseph Johnson and Yiu-Kai Ng</i>	
Using Open Educational Resources on culture for the creation of MOOCs: A proposal of training for Secondary Education teachers.....	207
<i>Spyridon Kappas, Dimitris Tsolis and Christos Alexakos</i>	
Control indoor climate	213
<i>Andrey Karpenko and Irina Petrova</i>	
Revisiting Directed Diffusion In The Era Of IoT-WSNs : Power Control For Adaptation to High Density	219
<i>Lyes Khelladi and Nadjib Badache</i>	
Ecological Niche Modelling Tool for Aquatic Life Population Distribution using Maximum Entropy Model	225
<i>Riana Joy King, Riza Batista-Navarro and Geoffrey Solano</i>	
Wide Area Video Surveillane Based on Edge and Fog Computing Concept.....	231
<i>Georgios Kioumourtzis, Michalis Skitsas, Nikolaos Zotos and Anargyros Sideris</i>	
Computer-aided design of the new technical systems based on the physical effects database	237
<i>Dmitriy Korobkin, Sergey Fomenkov and Sergey Kolesnikov</i>	
Extraction of Physical Effect practical applications from patent databases	243
<i>Dmitriy Korobkin, Sergey Fomenkov and Alla Kravets</i>	
Towards Requirements for Event Processing Network Models	248
<i>Arne Koschel and Irina Astrova</i>	
Enhancing high school students' performance based on semi-supervised methods.....	254
<i>Georgios Kostopoulos, Sotiris Kotsiantis, Ioannis Livieris and Vassilis Tampakas</i>	
Early Dropout Prediction in Distance Higher Education Using Active Learning	260
<i>Georgios Kostopoulos, Sotiris Kotsiantis, Omiros Ragos and Theodoula Grapsa</i>	
Internet of Things Services for Healthcare Systems	266
<i>Angeliki Krania, Margarita Statiri, Andreas Kanavos and Athanasios Tsakalidis</i>	
Resource-Oriented Architecture of Mobile Devices QoS-based Management System	272
<i>Alla Grigorievna Kravets Kravets, Ngoc Duong Bui and Le Thanh Tung Nguyen</i>	

Comparing LMS and CMS Platforms Supporting Social e-Learning in Higher Education ..	277
<i>Akrivi Krouska, Christos Troussas and Maria Virvou</i>	
Social Networks as a Learning Environment: Developed Applications and Comparative Analysis	283
<i>Akrivi Krouska, Christos Troussas and Maria Virvou</i>	
Assistive technology for complex support of children rehabilitation with autism spectrum disorder	289
<i>Marina Kultsova and Dmitry Matyushechkin</i>	
Generation of pictograph sequences from the Russian text in the assistive mobile application for people with intellectual and developmental disabilities	294
<i>Marina Kultsova, Dmitry Matyushechkin, Andrey Usov, Svetlana Karpova and Roman Romanenko</i>	
Comparison of Objective Quality Models for Adaptive Bit-streaming Services	298
<i>Chulhee Lee, S. Woo, S. Baek, J. Han, J. Chae and J. Lim</i>	
The Use of Automated System for Assessing the Quality of Health Care and its Impact on the Efficiency of Rehabilitation in Myocardial Infarction Patients	302
<i>Boris Lempert, Maria Derevyanchenko, Svetlana Fabritskaya, Mikhail Statsenko and Natalia Salnikova</i>	
M-Government in the local level: An exploratory study	308
<i>Azi Lev-On and Hananel Rosenberg</i>	
Toward Interactive Timelapses	311
<i>Filio Leventaki and Georgios Styliaras</i>	
Social CLWPR: A Socially enhanced Position based Routing Protocol for handling misbehaviour inVANETs	317
<i>Nikolaos Mantas, Malamati Louta, Konstantinos Katsaros and Stylianos Kraounakis</i>	
A survey for the evolution of adaptive learning in mobile and electronic devices	323
<i>Vasiliki Matzavela and Efthimios Alepis</i>	
Fraud Threats Disclosure through Cloud Information Security Framework	328
<i>Theodoros Mavroeidakos and Dimitrios D. Vergados</i>	
An Adaptive Integrated Environment for Assisted Living	334
<i>Christos Mettouris, Achilleas Achilleos, Alexandros Yeratziotis, George Papadopoulos, Daniel Ziegler, Lukas Smirek and Gottfried Zimmermann</i>	
The Biological Effects of Natural Radionuclides from the Construction Materials on the Population of the Volgograd Region	340
<i>Ilya Mikhnev, Natalia Salnikova, Mikhail Lempert and Kirill Dmitrenko</i>	
A Brain-Computer Interface to Examine the Effects of Sound on a Haptic-Based Virtual Drilling Task	346
<i>Diana Moreno, Mohammed Melaisi, Alvaro Uribe-Quevedo, Bill Kapralos and Miguel Vargas Martin</i>	
A Data Compression Scheme Using Adaptive Word-Based Pattern Matching	350
<i>Moad Mowafi, Dima Kasasbeh and Faruq Al-Omari</i>	

ParkCar: A smart roadside parking application exploiting the mobile crowdsensing paradigm	354
<i>Konstantina Mpanti, Malamati Louta and George Karetsos</i>	
The Proposal of Software for Transport Infrastructure Management	360
<i>Jan Mrazek, Lucia Duricova and Martin Hromada</i>	
Minutiae and Corner Detection in Fingerprints without Image Enhancement for Real Time Recognition	364
<i>Rabih Nachar</i>	
A Three-stage Scheme for Consumers' Partitioning Using Hierarchical Clustering Algorithm.....	370
<i>Antonia Nasiakou, Miltos Alamaniotis, Lefteri Tsoukalas and Georgios Karagiannis</i>	
An Analysis of EDSA Traffic Using Advanced Tools and Techniques.....	376
<i>Kristine Gayle Nebrija, Paolo Ejercito, Rommel Feria and Ligaya Lea Lara-Figueroa</i>	
Traffic Simulation Software Review.....	381
<i>Kristine Gayle Nebrija, Paolo Ejercito, Rommel Feria and Ligaya Lea Lara-Figueroa</i>	
Adopting Formal Approaches for Monitoring and Adaptation for Large-Scale Distributed Systems.....	385
<i>Sorana Nemes and Andreea Buga</i>	
CrsRecs: A Personalized Course Recommendation System for College Students	391
<i>Yiu-Kai Ng and Jane Linn</i>	
AN INNOVATIVE DISTANCE LEARNING SYSTEM FOR RUSSIAN LANGUAGE: THE CASE OF GREEK AUDIENCE.....	397
<i>Kalita Oxana Nikolaevna and George Pavlidis</i>	
Object Recognition for Use in Point-and-Link Communication.....	402
<i>Jiheon Ok, Sanghun Lee, Kwon Lee, Soochang Kim, Young-Hoon Kim and Chulhee Lee</i>	
Adaptivity in scenarios in an educational adventure game	408
<i>Spyros Papadimitriou and Maria Virvou</i>	
Development Framework for DRONES as Smart Autonomous Systems.....	414
<i>Loris Penserini, Emanuele Tonucci, Gianluca Ippoliti and Jessica Di Labbio</i>	
Emotions and User Interactions with Keyboard and Mouse	420
<i>Avar Pentel</i>	
Generic Hybridization of MOEA/D with Learning for Permutation Flow Shop Scheduling Problem.....	426
<i>Savvas Pericleous, Andreas Konstantinidis, Achilleas Achilleos and George Papadopoulos</i>	
Representation of Learning Objects in Cloud e-Learning	432
<i>Krenare Pireva, Petros Kefalas and Ioanna Stamatopoulou</i>	
An evolutionary motifs-based algorithm for community detection	438
<i>Clara Pizzuti and Annalisa Socievole</i>	
Mobile apps and data privacy: when the service is free, the product is your data.....	444
<i>Spyros Polykalas, George Prezerakos, Froso Chrysidou and Eleni Pylarinou</i>	

DefinitionText's Syntactic Feature using Stationarity Control.....	449
<i>Marios Poulos</i>	
Data Sampling for Semi-Supervised Learning in Vision-Based Concrete Defect Recognition	454
<i>Eftychios Protopapadakis, Athanasios Voulodimos and Anastasios Doulamis</i>	
An Investigation on Multi-Objective Optimization of Feedforward Neural Network Topology.....	460
<i>Eftychios Protopapadakis, Athanasios Voulodimos and Nikolaos Doulamis</i>	
A Cyber-Physical System Approach for Photovoltaic Array Monitoring and Control	466
<i>Sunil Rao, Sameeksha Katoch, Pavan Turaga, Andreas Spanias, Cihan Tepedelenlioglu, Raja Ayyanar, Henry Braun, Jongmiin Lee, Uday Shanthamallu, Mahesh Banavar and Devarajan Srinivasan</i>	
Analyzing Facts and Opinions in Nepali Subjective Texts.....	472
<i>Santosh Regmi, Bal Krishna Bal and Marina Kultsova</i>	
Segmentation of Overlapping Cytoplasm and Overlapped Areas in Pap smear Images	476
<i>Dwiza Riana, Achmad Nizar Hidayanto, Dwi H Widyantoro, Tati Latifah R Mengko and Oemie Kalsoem</i>	
Evaluation of Cloud Platforms for Managing IoT Devices.....	481
<i>M.Carmen Ruiz, Teresa Olivares and Jaime Lopez</i>	
Towards a Formal Approach for the Verification of SCA/BPEL Software Architectures ...	487
<i>Taoufik Sakka Rouis, Layth Sliman, Mohamed Tahar Bhiri and Mourad Kmimech</i>	
Potential Feedback Control for Data Scheduling in LTE Cellular Networks.....	493
<i>Hamed Samie, Emmanuel Moulay, Patrick Coirault, Rodolphe Vauzelle and Frédéric Launay</i>	
Pathway-based Human Disease Clustering Tool using Self-Organizing Maps.....	499
<i>James-Andrew Sarmiento, Angelyn Lao and Geoffrey Solano</i>	
A Brief Survey of Machine Learning Methods and their Sensor and IoT Applications	505
<i>Uday Shankar, Andreas Spanias, Cihan Tepedelenlioglu and Mike Stanley</i>	
Recommendations for Marketing Campaigns in Telecommunication Business based on the footprint analysis: Who is a good client?	513
<i>Julia Sidorova, Lars Skold, Oliver Rosander, Hakan Grahn and Lars Lundberg</i>	
A Network Selection Scheme for Healthcare Vehicular Cloud Computing Systems.....	519
<i>Emmanouil Skondras, Angelos Michalas, Nikolaos Tsolis, Aggeliki Sgora and Dimitrios D. Vergados</i>	
Question-Answer Analysis in Design Thinking at the Conceptual Stage of Developing a System with a Software	525
<i>Petr Sosnin</i>	
Solar Energy Management as an Internet of Things (IoT) Application	531
<i>Andreas Spanias</i>	

Social interaction through a mobile instant messaging application using geographic location for blended collaborative learning.....	535
<i>Christos Troussas, Akrivi Krouska and Maria Virvou</i>	
Reinforcement theory combined with a badge system to foster student's performance in e-learning environments.....	540
<i>Christos Troussas, Akrivi Krouska and Maria Virvou</i>	
Seamless task offloading on multi-clouds and edge resources: An experiment	546
<i>Andreas Tsagkaropoulos, Yiannis Verginadis, Dimitris Apostolou and Gregoris Mentzas</i>	
Supervisory model predictive on/off control of HVAC systems	551
<i>Anton Tyukov, Maxim Scherbakov and Adriaan Brebels</i>	
The Comparative Analysis of Crisis Management Information Systems in the Czech Republic.....	558
<i>Katerina Vichova and Martin Hromada</i>	
Based on GDPR privacy in UML: case of e-learning program.....	563
<i>Maria Virvou and Eirini Mougiakou</i>	
Web applications for learning CUDA programming.....	571
<i>Akiyoshi Wakatani and Toshiyuki Maeda</i>	
A Virtual Cardiac Catheterization Laboratory for Patient Education: The Angiogram Procedure.....	576
<i>Kyle Wilcocks, Nour Halabi, Priya Kartick, Alvaro Joffre Uribe Quevedo, Bill Kapralos and Chi-Ming Chow</i>	
How Much Support Do Students Need When Formulating Hypotheses in a Computer-Supported Inquiry Learning Environment: The Case of a Hypothesis Formulation Software Scaffold.....	580
<i>Nikoletta Xenofontos, Tasos Hovardas and Zacharias Zacharia</i>	
Genomic Analysis by Pipelined Bioinformatics Softwares in Cloud.....	584
<i>Jitao Yang</i>	
Feature Models for Big Data Applications.....	590
<i>Ioannis Zozas, Stamatia Bibi, Dimitrios Katsaros, Panagiotis Bozanis and Ioannis Stamelos</i>	