FiCloud 2018
The IEEE 6th International Conference on Future Internet of Things and Cloud, IEEE-CS TCI

MobiWis 2018
The 15th International Conference on Mobile Web and Intelligent Information Systems, LNCS, Springer

Innovate-Data 2018
The 4th International Conference on Big Data Innovations and Applications, IEEE-CS TCI

6-8 August 2018, Barcelona, Spain

With support of:
i2Cat Foundation, Spain
SYMPOSIA and WORKSHOPS

ICI 2018: The 5th International Symposium on Intercloud and IoT

BigR&I-2018: The 5th International Symposium on Big Data Research and Innovation


MobiApps 2018: The 5th International Workshop on Mobile Applications

SoNet 2018: The International Symposium on Social Networks and Applications

PMECT 2018: The 12th International Symposium on Performance Modeling and Evaluation of Computer and Telecommunication Networks in Cloud & IoT

DS4IDS 2018: The 2nd International Workshop on Data Science for Intelligent Decision Support

CSW 2018: The 2nd International Workshop on Cyber Security

WCG 2018: The 1st International Workshop on Cloud Gamification

AWMA 2018: The 5th International Symposium on Advanced Web and Mobile Applications
KEYNOTE TALK I

Cloud-First and Cloud-Everything: What will IoT do to Prices and Pricing?

Prof. Dr. Gottfried Vossen
University of Münster
Germany

Abstract:

Due to the pervasiveness of the cloud today and due to the fact that data has become a commodity similar to electricity, we are nowadays confronted with new challenges: Companies are often interested in harvesting data even without a clear application in mind, while users happily exchange personal data for a “free” service. IoT contributes to this situation, since it allows to collect even more data about systems, appliances, and people, and comes with additional “freemium” offers. In this situation, the question arises of whether a dedicated price tag should be attached to personal and other data and, if so, what it should say. Conversely, the question is whether “price” as a single piece of information on the value or quality of an object or a service is outdated and should be replaced by relevant and context-specific data. In this talk, these questions are studied from various angles and areas, including electronic commerce, advertising, and automation. Special attention is paid to data-rich marketplaces where everybody can buy or sell data.

Biography:

Gottfried Vossen is a Professor of Computer Science in the Department of Information Systems at the University of Muenster in Germany. He is a Fellow of the German Computer Science Society and an Honorary Professor at the University of Waikato Management School in Hamilton, New Zealand. He received his master’s and Ph.D. degrees as well as the German Habilitation from the Technical University of Aachen in Germany, and is an Editor-in-Chief of Elsevier's Information Systems - An International Journal. His current research interests include conceptual as well as application-oriented challenges concerning databases, information systems, business process modelling, Smart Web applications, cloud computing, and big data.
KEYNOTE TALK II
From the Internet of Things to the Social Innovation and the Economy of Data
Pro. Luis Muñoz
University of Cantabria
Spain

Abstract:

Worldwide, cities are one of the key stakeholders in the digital transformation fostered by the evolution of new technologies, new enablers and concepts such as Internet of Things (IoT) and Big Data. Due to this transformation, cities are able to improve their citizens' lives whilst increasing the efficiency of urban services. Aiming at conceiving an inclusive city overcoming the digital gap, city managers have to offer different platforms and tools which encourage citizen participation making the co-creation paradigm a reality. This brings a new dimension to the city and technology symbiosis offering citizens a plethora of possibilities in terms of thinking, designing, implementing and assessing new services which fulfil specific requirements raised by urban collectives and activists. Based on these premises, in this talk, the key experiences and decisions in transforming some legacy urban ecosystems into a smart city will be presented. The incremental approach followed in the digitalization of urban services (waste management, energy…) will be discussed. In addition, other main projects and actions currently being executed in terms of co-creation, holistic management and economy of the data will be explored in this talk.

Biography:

Luis Muñoz is a Professor of Telematics Engineering at the University of Cantabria in Santander, Spain. His research focuses on advanced data transmission techniques, heterogeneous wireless multihop networks, Internet of Things, technologies and services in the context of smart cities and applied mathematical methods for telecommunications. He has participated in several National and European research projects belonging to the 4th, 5th, 6th and 7th and H2020 Framework Program in which he was technical manager of SmartSantander. He has published over 150 journal and conference papers. He serves as editor of several journals and he has been invited to participate in the Steering Committees and Technical Program Committees of the various international conferences. In parallel to this activity, he serves as a Consultant of the Spanish Government as well as for different companies in Europe and USA. He also has served as expert of the ETSI and European Commission.
MONDAY 6 AUGUST 2018

08:00 am: Registration

9:00-9:30 Conference Opening (Room: Barcelona A)

09:30-10:30 Plenary Session: Keynote I

Cloud-First and Cloud-Everything: What will IoT do to Prices and Pricing? Prof. Dr. Gottfried Vossen, University of Münster, Germany

Session Chair: Michel Kadoch, Ecole de Technologie Superieure, Canada Room: Barcelona A

10:30-11:00 Coffee Break

11:00-12:30 Parallel Sessions

FiCloud Session 1: Complex Systems and Architectures
Session Chair: Giuseppe Di Modica, University of Catania, Italy Room: Barcelona A

Multi-level Elastic Deployment of Containerized Applications in Geo-distributed Environments
Matteo Nardelli, Valeria Cardellini and Emiliano Casalicchio

Implementation of a fault aware cloud service provisioning framework
Domenico Calcaterra, Vincenzo Cartelli, Giuseppe Di Modica and Orazio Tomarchio

Economic Considerations for Integrating Massively Parallel Heterogeneous Devices into the Cloud
H. Drew Wilken, Joseph M. Myre, and Jason Sawin

TE-based Machine Learning Techniques for Link Fault Localization in Complex Networks
Srinikethan Madapuzi Srinivasan, Tram Truong-Huu and Mohan Gurusamy

MobiWis Session 1: Mobile Web and Apps
Session Chair: Sezer Goren, Yeditepe University, Turkey Room: Plaza 1

Towards Model-Driven Specification of Business Apps for Wearable Devices
Christoph Rieger and Herbert Kuchen
Development of a Mobile News Reader Application Compatible with In-Vehicle Infotainment
Başak Kurt and Sezer Gören

Mobile Applications Used in Multiple Sclerosis
Blanka Klimova

Prototype of a Smart Google Glass Solution for Deaf (and Hearing Impaired) People
Ales Berger and Filip Maly

12:30-13:30 Lunch

13:30-15:00 Parallel Sessions

FiCloud Session 2: Performance Evaluation and Modelling
Session Chair: Eleni Karatza, Aristotle University of Thessaloniki, Greece
Room: Barcelona A

Energy-Aware Scheduling of Real-Time Workflow Applications in Clouds Utilizing DVFS and Approximate Computations.
Georgios L. Stavrinides and Helen D. Karatza

Effectiveness of content spatial distribution analysis in securing IoT environments
Fabrizio Angiulli, Luciano Argento and Angelo Furfaro

Realizing Prioritized Scheduling Service in the Hadoop System
Tsozen Yeh and Hsinyi Huang

An Agent Based Model for Health Surveillance Systems and Early Biological Threat Detection
Mohammad Al-Zinati, Qutaibah Al-Thebyan and Yaser Jararweh

ReMot: Reputation and Resource-based Model to Estimate the Reliability of the Host Machines in Volunteer Cloud Environment
Yousef Alsenani, Garth V. Crosby, Tomas Velasco and Abdulrahman Alahmadi

MobiWis Session 2: Wireless Sensor Networks
Session Chair: Marisa Catalan, i2Cat Foundation, Spain
Room: Plaza 1

Finding Degree Constrained k-Cardinality Minimum Spanning Trees for Wireless Sensor Networks
Pablo Adasme, Ismael Soto and Fabian Segue
I-RP: Interference aware Routing Protocol for WBAN

FDRA: Fault Detection and Recovery Algorithm for Wireless Sensor Networks
Chafiq Titouna, Ado Adamou Abba Ari and Hamouma Moumen

Modeling the Mobile Signal Transmission Network of Earth-moving and Construction Machines' Sensors
Tatyana Golubeva, Bakhodyr Yakubov, Sergey Konshin and Boris Tshukin

**ICI Session 1: Intercloud and IoT I**
Session Chair: Amine Chemchem, CReSTIC, France
Room: Plaza 6

User Interface design method considering UI device in Internet of Things system
Shohei Toyama and Masayuki Hirayama

Cybersecurity in Microgrids
Sebastian Cruz-Duarte, Paulo A. Gaona-Garcia and Elvis E. Gaona-Garcia

Deep Learning and Data Mining Classification Through the Intelligent Agent Reasoning
Amine Chemchem, Francois Alin and Michael Krajecki

Study of Rule Placement Schemes for Minimizing TCAM Space and Effective Bandwidth Utilization in SDN
Yen-Wen Chen and Yu-Hsuan Lin

15:00-15:30 Coffee Break
15:30-17:00 Parallel Sessions

**FiCloud Session 3: Cloud Services Models and SLA**
Session Chair: Angelo Furfaro, University of Calabria, Italy
Room: Barcelona A

A new SLA-aware Load Balancing Method in the Cloud using an Improved Parallel Task Scheduling Algorithm
Mehran Ashourae, Seyed Nima Khezr, Rachid Benlamri and Nima Jafari Navimipour

Multi-Objective Self-Adaptive Composite SaaS Using Feature Model
Afaf Mousa, Jamal Bentahar and Omar Alam
Efficient Cloud Auto-Scaling with SLA objective using Q-Learning.  
*Shay Horovitz and Yair Arian*

A Policy Based Application Deployment Method in Hybrid Cloud Environment  
*Hao Wei and Joaquin Salvachua Rodriguez*

**SoNet Session: Social Networks and Applications**  
Session Chair: Irfan Awan, University of Bradford, UK  
Room: Plaza 1

Computing Len for Exploring the Historical People’s Social Network  
*Junjie Huang and Tiejian Luo*

Comparative Evaluation of Cyber Migration Factors in the Current Social Media Landscape  
*Xiangyu Xiao and Nicholas Caporuss*

Social engineering: Application of psychology to information security  
*Ivan Del Pozo, Mauricio Iturralde and Felipe Restrepo*

**ICI Session 2: Intercloud and IoT II**  
Session Chair: Nitin Auluck, Indian Institute of Technology Ropar, India  
Room: Plaza 6

A Markov Chain Based Link Lifetime Prediction in Mobile Ad hoc Networks  
*Sayed Chhattan Shah and Sunil Kumar*

Autonomous data acquisition in the hierarchical edge-based MCS ecosystem  
*Martina Marjanovic, Aleksandar Antonic and Ivana Podnar Zarko*

IEEE 802.15.4 Thread mesh network—Data transmission in harsh environment  
*Wojciech Rzepecki, Łukasz Iwanek and Piotr Ryba*

Metrics and Tool for Evaluating Data Stream Processing Systems  
*Andre Leon S. Gradwohl*

**17:00-18:30 Parallel Sessions**

**FiCloud Session 4: Security, Privacy and Trust I**  
Session Chair: Faraz Fatemi Moghaddam, GWDG and University of Göttingen, Germany  
Room: Barcelona A

Ensuring compliance of IoT devices with their Privacy Policy Agreement  
*Alanoud Subahi and George Theodorakopoulos*
A Sequence-Based Access Control Framework for Reliable Security Management in Clouds
Faraz Fatemi Moghaddam, Tayyebe Emadinia, Philipp Wieder and Ramin Yahyapour

Secure Routing for MANET Connected Internet of Things Systems
Jonny Karlsson, Laurence S. Dooley and Göran Pulkkis

Ensuring IoT security with an architecture based on a separation kernel
Mahieddine Yaker, Gilles Grimaud, Julien Cartigny, Chrystel Gaber, Jean-Philippe Wary, Xiao Han and Vicente Sanchez-Leighton

Integrating Behavioural Security Factors for Enhanced Protection of Organisational Information Technology Assets
Aristotle Onumo, Andrea Cullen and Irfan Ullah-Awan

**CSW Session: Cyber Security**
Session Chair: Hamad Al-Mohannadi, University of Bradford, United Kingdom
Room: Plaza 1

Lightweight protocol for Privacy and Security for RFID-Based Healthcare System
N. Eya, G. Oguntala, and B. A. Mohammed

Towards a fast off-line static malware analysis framework
Macdonald Chikapa and Anitta Patience Namanya

Understanding Awareness of Cyber Security Threat Among IT Employees
Hamad AL-Mohannadi, Irfan Awan, Jassim Al Hamar, Yousef Al Hamar, Mohammad Shah, Ahmad Musa

Biometric of Intent: A New Approach Identifying Potential Threat in Highly Secured Facilities
Jassim Al Hamar, Joëlle Chamieh, Hamad AL-Mohannadi, Mariam Al Hamar, Ahmad Al-Mutlaq and Ahmad Musa

Malware Propagation Modelling in Peer-to-Peer Networks: A Review
Ahmad Sanda Musa, Hamad Almohannadi and Jassim Alhamar

**WCG Session: Cloud Gamification**
Session Chair: Gaik-Yee Chan, Multimedia University, Malaysia
Room: Plaza 6

Gamification’s impact on employee engagement: enhancing employee well-being with a cloud based gamified team-building application
Szabina Fodor and Balázs Barna
Battling the fear of public speaking: Designing software as a service solution for a virtual reality therapy

*Justas Salkevicius and Lukas Navickas*

On the Understanding of Gamification in Blockchain Systems

*Reza M. Parizi and Ali Dehghantanha*

A Cloud-based Service for Gamification of eGuides

*Jakub Swacha and Artur Kulpa*

19:30-21:30 Reception Party
TUESDAY 7 AUGUST 2018

09:00-10:30  Plenary Session: Keynote II
From the Internet of Things to the Social Innovation and the Economy of Data
Prof. Luis Muñoz, University of Cantabria, Spain
Session Chair: Marisa Catalan, i2Cat Foundation, Spain
Room: Barcelona A

10:30-11:00  Coffee Break

11:00-12:30  Parallel Sessions

FiCloud Session 5: IoT Services and Applications I
Session Chair: Jonny Karlsson, Arcada University of Applied Sciences, Finland
Room: Barcelona A
An Explication of Acceptability of Wearable Devices in Context of Bangladesh: A User Study
Arnab Debnath, Khadija Tul Kobra, Proteeti Prova Rawshan, Manisha Paramita and Muhammad Nazrul Islam

Design and Realization of Alzheimer’s Artificial Intelligence Technologies (AAIT) System
Anna Zhang, Ker-Jiun Wang and Zhi-Hong Mao

IoT for smart buildings - long awaited revolution or lean evolution
Marcin Bajer

Internet of things (IoT) applied to an urban garden
Gabriela Carrion, Monica Huerta and Boris Barzallo

MobiWis Session 3: Web and Cloud Services
Session Chair: Tor-Morten Groenli, Westerdals Oslo ACT, Norway
Room: Plaza 1
Analysis of the Use of System Resources for Cloud Data Security
Josef Horalek and Vladimir Sobeslav

Towards the Cloud solutions in aspects of Distributed Business Services
Aneta Poniszewska-Maranda, Bartosz Ignaczewski and Erich Markl

Web service composition on smartphones: The challenges and a survey of solutions
Gebremariam Mesfin, Gheorghita Ghinea, Tor-Morten Grønli and Muhammad Younas

Server-Based Indoor Location Detection System
Osman Kerem Perente and Tacha Serif

**Innovate-Data Session 1: Big Data Processing and Applications**
Session Chair: Pino Caballero-Gil, University of La Laguna, Spain
Room: Plaza 6

Semantic Data Ingestion for Intelligent, Value-Driven Big Data Analytics
Jeremy Debattista, Judie Attard and Rob Brennan

Towards Making Distributed RDF Processing FLINKer
Amr Azzam, Sabrina Kirrane and Axel Polleres

A Cognitive Agent for Mining Bugs Reports, Feature Suggestions and Sentiment in a Mobile Application Store
Sergio Munoz, Oscar Araque, Antonio F. Llamas and Carlos A. Iglesias

A microservices-based platform for efficiently managing Oceanographic Data
Antonino Galletta, Lorenzo Carnevale, Alina Buzachis, Antonio Celesti and Massimo Villari

12:30-13:30 Lunch

13.30-15:00 Parallel Sessions

**FiCloud Session 6: IoT Services and Applications II**
Session Chair: Matteo Nardelli, University of Rome Tor Vergata, Italy
Room: Barcelona A

Performance Evaluation of IEEE 802.15.6 Channel Access Procedure in WBAN
Neji Kouka, Tarek Guesmi and Ouajdi Korbaa

A Self-organized Framework for Insurance Based on Internet of Things and Blockchain
Monireh Vahdati, Kamran Gholizadeh HamlAbadi, Ali Mohammad Saghiri and Hassan Rashidi

IoT Device Lifecycle – a Generic Model and a use case for Cellular Mobile Networks
Daniel Kozma, Ferenc Nandor Janky and Pal Varga
Complex Event Recognition Notification Methodology for Uncertain IoT Systems Based on Micro-Service Architecture
Vrbaski M., Bolic M. and Majumdar S.

**MobiWis Session 4: Web and Mobile Applications**
Session Chair: Aneta Poniszewska-Marańda, Lodz University of Technology, Poland
Room: Plaza 1
Analysis of Technical Devices Relevance for Remote Readings of Electric Meters
Josef Horalek and Vladimir Sobeslav

Smart Tourism Platform based on Microservice Archi-itecture and Recommender Services
Laura Martínez García, Silvana Aciar, Raynel Mendoza, Juan José Puello

Autism Sohayika: A Web Portal to Provide Services to Autistic Children
Muhammad Nazrul Islam, Muimmah Kabir, Jakia Sultana, Chowdhury Nawrin Ferdous, Afsana Zaman, Ummey Habiba, Priyanka Kundu, and Iffat Tamanna

Improving Driver Behavior Using Gamification
Simge Helvacı, Aras Senova, Gorkem Kar and Sezer Goren

Transformation of Human Labour from Stone Age to Information Age
Michal Beno

**Innovate-Data Session 2: Big Data Mining and Analytics**
Session Chair: Rachid Benlamri, Lakehead University, Canada
Room: Plaza 6
A Comparative Evaluation of Big Data Frameworks for Graph Processing
Marc Kaepke and Olaf Zukunft

Application of Data Mining Techniques to Predict the Length of Stay of Hospitalized Patients with Diabetes
Ayman Alahmar, Emad A. Mohammed and Rachid Benlamri

Towards Hybrid Energy Consumption Prediction in Smart Grids with Machine Learning
Shailendra Singh, Abdulsalam Yassine and Rachid Benlamri

Survival Analysis within Stack Overflow: Python and R
Laurel Lord, John Sell, Feyzi Bagirov and Mark Newman

15:00-15:30 Coffee Break
FiCloud Session 7: Cloud and IoT Systems
Session Chair: Martina Marjanovic, University of Zagreb, Croatia
Room: Barcelona A
Smart Winter Service Platform and Route Planning Algorithm
Perin Unal, Yunuscan Kocak and Yunus Donmez
Retransmission Policies for Efficient Communication in IoT Applications
Imtiaz A. Halepoto, Umair A. Khan and Adnan A. Arain
Future of IoTSP – IT and OT integration
Piotr Lipnicki, Daniel Lewandowski, Diego Pareschi, Enrico Ragaini and Waldemar Pakos
An Evaluation of Optimisation Approaches in Cloud of Things Resource Trading
Ahmed Salim Al Rawahi, Kevin Lee, Jon Robinson and Ahmad Lotfi
PrIoT: Prototyping the Internet of Things
Nahit Pawar, Thomas Bourgeau and Hakima Chaouchi

MobiApps Session 1: Mobile Applications I
Session Chair: Wael Mohamed Elmedany, University of Bahrain, Bahrain
Room: Plaza 1
User Trajectory Extraction Based on WiFi Scanning
Maros Cavojsky, Marek Uhlar, Marian Ivanis, Martin Molnar and Martin Drozda
Developing a Mobile Application and Six Sigma for Health Awareness Improvement Regarding Diabetic Students in Kuwait
Walid Smew, Suat Kasap and Rawan Al-Shatti
Embedded Fatigue Detection using Convolutional Neural Networks with Mobile Integration
Mohammed Ghazal, Yasmine Abu Haeyeh, Abdelrahman Abed, and Sara Ghazal
Design and Implementation of a Mobile Device for Blood Glucose Level Assessment
Mohammed Ghazal, Marah Alhalabi, Mansour Chabnari, Linda Ghazal, and Luay Fraiwan

Innovate-Data Session 3: Big Data Security, Privacy and Trust
Session Chair: Olaf Zukunft, HAW Hamburg, Germany
Secure Indoor Location For Airport Environments  
*Ivan Santos-Gonzalez, Alexandra Rivero-Garcia and Pino Caballero-Gil*

Fuzzy Logic System for Identity Theft Detection in Social Networks  
*Jose A. Concepcion-Sanchez, Jezabel Molina-Gil, Pino Caballero-Gil, Ivan Santos-Gonzalez*

Authentication and Encryption for a Robotic AdHoc Network using Identity-Based Cryptography  
*Jonay Suarez-Armas, Candido Caballero-Gil, Alexandra Rivero-Garcia and Pino Caballero-Gil*

FiCloud Session 8: Data and Knowledge Management  
Session Chair: Marwan Hassani, Eindhoven University of Technology, Netherlands  
Room: Barcelona A

Analyzing Customer Journey with Process Mining: from Discovery to Recommendations  
*Alessandro Terragni and Marwan Hassani*

Efficient Point-based Pattern Search in 3D Motion Capture Databases  
*Christian Beecks, and Alexander Grass*

Efficient Data Prediction, Reconstruction and Estimation in Indoor IoT Networks  
*Jyotirmoy Karjee, Hemant Kumar Rath and Arpan Pal*

Smartphones as Alternative Cloud Computing Engines: Benefits and Trade-offs  
*Brennan Schaffner, Jason Sawin and Joseph M. Myre*

MobiApps Session 2: Mobile Applications II  
Session Chair: Mohammed Ghazal, Abu Dhabi University, UAE  
Room: Plaza 1

Cyber Security Challenges of Deploying IoT in Smart Cities for Healthcare Applications  
*Sara Alromaihi, Wael Elmedany, and Chitra Balakrishna*

Mobile Microscopic device to detect parasitical & cell-related diseases using Machine Learning  
*Aishah Khan, Ashraf Khali and Hassan Hajjdiab*
A Food Wastage Reduction Mobile Application
Ayesha Anzer, Hadeel A. Tabaza, Wedad Ahmed and Hassan Hajjdiab

**BigR&I Session 1: Big Data Research and Innovation I**
Session Chair: Marcin Bajer, ABB, Poland
Room: Plaza 6

**Invited Talk:** Secure Data Science: Integrating Cyber Security and Data Science
*Prof. Bhavani Thuraisingham, The University of Texas at Dallas, USA*

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<th>Time</th>
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<tr>
<td>19:30-21:30</td>
<td>Banquet (Dinner)</td>
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FiCloud Session 9: Networking and Communication Protocols
Session Chair: Jyotirmoy Karjee, Tata Consultancy Services, India
Room: Plaza 1
Analysis and Comparison of Live Virtual Machine Migration Methods  
Mohammad A. Altahat, Anjali Agarwal, Nishith Goel and Marzia Zaman

Linear and Logistic Regression Based Monitoring for Resource Management in Cloud Networks  
Mustafa Daraghmeh, Suhib Bani Melhem, Anjali Agarwal, Nishith Goel and Marzia Zaman

UAV-assisted Cluster Head Election for AUAV-based Wireless Sensor Network  
Gicheol Wang, Byoung-Sun Lee and Jae Young Ahn

An Enhanced Control Overhead Messages Reduction Algorithm in VANET  
Ahmad Abuashour and Michel Kadoch

Evaluation of New Dynamic Time Division Multiplexing Protocol for Real-Time Traffic over Converged Networks  
Dalia El-Banna, Peter Bull and Yonghao Wang

FiCloud Session 10: Smart Environment
Session Chair: Ron Austin, Birmingham City University, United Kingdom
Room: Plaza 6
A Framework for User Routine Discovery in Smart Homes  
Prakhar Shukla, Parnab Kumar Chanda, Ramnath Jayachandran, Ashok Subash

HMM-based Indoor Localization using Smart Watches’BLE Signals  
Donghee Han, Hyungtay Rho and Sejoon Lim

Creating smart environments: Analysis of improving security on smart homes  
Ivan Del Pozo and Denise Cangrejo

IoT Software Infrastructure for Remote Monitoring of Patients with Chronic Metabolic Disorders  
Edoardo Patti, Maria Donatelli, Enrico Macii and Andrea Acquaviva

A Distributed Sensor Network for Monitoring Noise Level and Noise Sources in Urban Environments
EMSICC Session: Energy Management for Sustainable IoT and Cloud Computing
Session Chair: Samia Bouzefrane, Cnam, France
Room: Plaza 7
Energy-Efficient Algorithm for Load Balancing and VMs Reassignment in Data Centers
Nabila Djennane, Rachida Aoudjit and Samia Bouzefrane

Energy-Scalable Montgomery-Curve ECDH Key Exchange for ARM Cortex-M3 Microcontrollers
Christian Franck, Johann Großschadl, Yann Le Corre and Cyrille Lenou Tago

Energy-efficient hardware caching decision using Fuzzy Logic in Mobile Edge Computing
Sarra Mehame, Khaled Slimani, Samia Bouzefrane and Mehammed Daoui

A Down-to-earth Integration of Named Data Networking in the Real-world IoT
Amar Abane, Paul Muhlethaler, Mehammed Daoui and Hossam Afifi

10:30-11:00 Coffee Break
11:00-12:30 Parallel Sessions

FiCloud Session 11: Cloud, Fog and Edge Computing I
Session Chair: Piotr Lipnicki, ABB, Corporate Research Center, Poland
Room: Plaza 1

Panoptic, Privacy over Edge-Clouds
Tadeu Freitas, Joao Rodrigues, Diogo Bogas, Miguel Coimbra and Rolando Martins

PASHE: Privacy Aware Scheduling in a Heterogeneous Fog Environment
Kaneez Fizza, Nitin Auluck, Omer Rana and Luiz Bittencourt

Challenges facing the industrial implementation of Fog Computing
Bouzarkouna Imen, Sahnoun M’hammed, Sghaier Nouha, Baudry David and Gout Christian

On the application of Social Internet of Things with Fog Computing: A new Paradigm for Traffic Information Sharing System
Van L. Tran, Anik Islam, Jeevan Kharel and Soo Y. Shin

Vertical Workflows: Service Orchestration Across Cloud & Edge Resources
Omer Rana, Manjerhussain Shaikh, Muhammad Ali, Ashiq Anjum and Luiz Bittencourt

FiCloud Session 12: Cloud, Fog and Edge Computing II
Session Chair: Luiz F. Bittencourt, University of Campinas, Brazil
Room: Plaza 6

A Rank Scheduling Mechanism for Fog environments
David Perez Abreu, Karima Velasquez, Marcio R. M. Assis, Luiz Bittencourt, Marilia Curado, Edmundo Monteiro and Edmundo Madeira

An Intelligent Edge Computing based Semantic Gateway for Healthcare Systems Interoperability and Collaboration
Tshiamo Sigwele, Yim Fun Hu, Muhammad Ali, Jiachen Hou, Misfa Susanto and Helmy Fitriawan

On the Influence of Fog Colonies Partitioning in Fog Application Makespan
Carlos Guerrero, Isaac Lera and Carlos Juiz

Virtualizing the Edge: Needs, Opportunities and Trends
Eva Marín-Tordera, Beatriz Otero, Xavi Masip-Bruin and Eva Rodriguez

AWMA/PMECT/DS4IDS Session:
Session Chair: Khaled Khankan, Taibah University, Saudi Arabia
Room: Plaza 7

Real Time Adaptive Approach for Image Processing Using Mobile Nodes
Ahmed Darweesh, Ahmed Abouelfarag and Rania Kadry

A mobile data transfer in energy-efficient intelligent systems for wastewater treatment of thermal power plants
Samal Abdreshova, Tatyana Golubeva, Sergey Konshin, Shabden Bahtaev, Birlesbek Aliyarov, and Viktor Tailakov

Proposal of Analysis and Evaluation Method of Urban Area Space Utilizing of Wheelchair Probe Information
Yuriko Oda, Fumihito Ito, Ory Yoshifuji, Yoichi Oda, Setsuko Kanai, Zong Shichun and Hirotomo Ohuchi

Web Intelligence in Higher Education: A Study on the usage of Business Intelligence techniques in Education
Adriano Maia, Filipe Portela and Manuel Filipe Santos

BigR&I Session 2: Big Data Research and Innovation II
Session Chair: Natalia Miloslavskaya, National Research Nuclear University MEPhI, Russia
Room: Plaza 8
Standardization of Ensuring Information Security for Big Data Technologies
*Natalia Miloslavskaya, Andrey Nikiforov and Vladimir Budzko*

Adaptive Control of Apache Spark’s Data Caching Mechanism Based on Workload Characteristics
*Hideo Inagak, Tomoyuki Fujii, Ryota Kawashima and Hiroshi Matsuo*

Applying Big Data Technologies to Detect Cases of Money Laundering and Counter Financing of Terrorism
*Kirill Plaksiy, Andrey Nikiforov and Natalia Miloslavskaya*

12:30-13:30 Lunch

13:30-15:00 Parallel Sessions

**FiCloud Session 13: Cloud Federation and Virtualization**
Session Chair: Xavier Masip-Bruin, Technical University of Catalonia, Spain
Room: Plaza 1

Modelling Cloud Federation: A Fair Profit Distribution Strategy Using the Shapley Value
*Kun Ma, Antoine Bagula, Hope Mauwa and Antonio Celesti*

Sensing as a Service Middleware Architecture
*Muhammed Alarbi and Hanan Lutfiyya*

A NoSQL Graph Approach to Manage IoTaaS in Cloud/Edge Environments
*Antonio Celesti, Alina Buzachis and Antonino Galletta*

Knee/Elbow point estimation through thresholding
*Mário Antunes, Joana Ribeiro, Diogo Gomes and Rui L. Aguiar*

**FiCloud Session 14: Security, Privacy and Trust II**
Session Chair: Khaled Khan, Qatar University, Qatar
Room: Plaza 6

The World of Malware: An Overview
*Anitta Patience Namanya, Andrea Cullen, Irfan Awan and Jules Pagna Disso*

Resource Scalability as Preventive and Remedial Measures for Cloud Service Violation
*Gaik-Yee Chan, Hassan Mahmood Khan and Fang-Fang Chua*

An approach to detecting distributed denial of service attacks in software defined networks
*Abimbola Sangodoyin, Babagana Modu, Irfan Awan and Jules Pagna Disso*
Using Sparse Matrices to Prevent Information Leakage in Cloud Computing
Khaled M. Khan, Mahboob Shaheen and Yongge Wang

**BigR&I Session 3: Big Data Research and Innovation III**
Session Chair: Natalia Miloslavskaya, National Research Nuclear University MEPhI, Russia
Room: Plaza 8
A Proxy-based Query Aggregation Method for Distributed Key-Value Stores
Daichi Kawanami, Masanari Kamoshita, Ryota Kawashima and Hiroshi Matsuo

Predictive repair and support of engineering systems based on distributed data processing model within an IoT concept
Vasiliy S. Kireev, Stanislav A. Filippov, Anna I. Guseva, Pyotr V. Bochkaryov, Igor A. Kuznetsov, Vladimir Migalin and Sergey S. Filin

Cloud computing in housing and utility services monitoring systems
Vasiliy S. Kireev, Stanislav A. Filippov, Anna I. Guseva, Pyotr V. Bochkaryov, Igor A. Kuznetsov and Vladimir Migali

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