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6th Int Conference on Internet of Things, Systems, Management & Security (IOTSMS 2019)
Collocated with

6th Int Conference on Social Network Analysis, Management & Security (SNAMS 2019)
Granada, Spain Oct 22-25, 2019

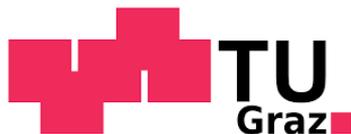
PROGRAMME



JORDAN UNIVERSITY
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Granada, Spain Oct 22-25, 2019

PROGRAMME

	Tuesday 22nd Oct 2019			Wednesday 23rd Oct 2019			Thursday 24th Oct 2019				Friday 25th Oct 2019
08:00 - 17:00	On site registration			On site registration			On site registration				
08:30- 09:00	Opening & Welcome										
09:00 - 9:45	Keynote: Dr. Anastasia Giachanou Misinformation Detection in			Keynote: Prof. Davor Svetinovic, Blockchain – IoT – AI Trust			Keynote: Prof.L. Alfredo Grieco, An Information Centric Networking in mobile IoT systems.				Networking and Social Activity -
9:45 - 10:00	Keynote: Dr.Gabriel Maciá-Fernández Cybersecurity and			Panel Discussion			Keynote: Prof. Mourad Oussalah, Social Network Analysis.				
10:00 - 10:30	IoT: open challenges and perspectives										
10:30 - 11:00	Coffee break			Coffee Break			Coffee Break				
11:00-12:30	IOTSMS Session 1	SNAMS Session 1	ES5TI	IOTSMS Session 4	SNAMS Session 4	BCCA	IOTSMS Session 7	SNAMS Session 6	SAMSN Session 1	HMiMS	
12:30 - 13:30	Lunch			Lunch			Lunch				
13:30 - 14:30	IOTSMS Session 2	SNAMS Session 2	DTL-BDSN	IOTSMS Session 5	SNAMS Session 5	BCCA	Tutorial: Prof. Nabil Abdennadher: Edge and Cloud for smart cities	ITCVT	SAMSN Session 2	MarSS + TeCrop	
14:30 - 15:30											
15:30 -16:00	Coffee Break			Coffee break			Coffee Break				
16:00-16:30	IOTSMS Session 3	SNAMS Session 3	ANLP	IOTSMS Session 6	CNS	BCCA	IOTSMS Session 8	DSEA	SAMSN Session 3	FCST	
16:00 -17:00											
17:00-18:00											
19:30 - 23:00				CONFERENCE DINNER							

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Tuesday 22 nd Oct 2019	
08:00 - 17:00	Onsite registration
08:30 - 09:00	Opening & Welcome
09:00 - 09:45	Keynote speaker 1: Dr. Anastasia Giachanou, Universitat Politècnica de València (UPV), Spain Chair: Christian Guetl
9:45 - 10:30	Keynote 2: Dr. Gabriel Maciá-Fernández, University of Granada, Spain Chair: Jaime Lloret Mauri
10:30-11:00	Coffee Break
11:00 - 12:30	<p>Chair: Lucas R. B. Brasilino and Nasr Abosata</p> <ul style="list-style-type: none"> • Mitigating DDoS Flooding Attacks against IoT using Custom Hardware Modules Lucas R. B. Brasilino, Martin Swany • Secure Smart-Home Application Based on IoT-CoAP protocol Nasr Abosata, Andrew H Kemp, Mohsen Razavi • A Location-Aware Authentication Model to Handle Uncertainty in IoT Mohammad Heydari, Alexios Mylonas, Vasilios Katos, Emili Balaguer-Ballester, Vahid Heydari Fami Tafreshi, Elhadj Benkhelifa • A fast and efficient datapath designs of lightweight cipher RoadRunner for resource constrained environments Gaurav Bansod, Pratik Pachange • Design and Implementation of a Hybrid Anomaly Detection System for IoT Ahmad Ayad, Alireza Zamani, Anke Schmeink, Guido Dartmann
	<p>Chair: André Schmale and Michael Kretschmer</p> <ul style="list-style-type: none"> • Cyber Security in a Complex Community: A Social Media Analysis on Common Vulnerabilities and Exposures Madeline Schiappa, Graham J.W. Chantry, Ivan Garibay • Identifying Concerned Citizen Communication Style during the State Parliamentary Elections in Bavaria André Schmale, Volker Mittendorf • Analyzing the Behaviour of Twitter Bots in Post Brexit Politics Bello Shehu Bello, Reiko Heckel • On the Role of Score, Genre and Text in Helpfulness of Video Game Reviews on Metacritic Patrick Kasper, Philipp Koncar, Tiago Santos, Christian Gütl • Using Topical Networks to Detect Editor Communities in Wikipedias Michael Kretschmer, Bernhard Göschlberger, Ralf Klamma
11:00 - 12:30	<p>IOTSMS Session 1</p>
11:00 - 12:30	<p>SNAMS Session 1</p>

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11:00 - 12:30	ES5TI	<p>Chair: Pablo Padilla and Juan Valenzuela</p> <ul style="list-style-type: none"> • Network Traffic Characterization Using L-moment Ratio Diagrams Mihaela I. Chidean, Javier Carmona-Murillo, Rune H. Jacobsen, Qi Zhang • Experimental Study on Machine Learning with Approximation to Data Streams Zhang Fu, Jiani Jiang • Applying Ant Colony Optimization for Service Function Chaining in a 5G Network Segundo Moreno, Antonio Mora, Javier Carmona-Murillo, Pablo Padilla, Pedro Castillo • Detection and mitigation of DoS attacks in SDN. An experimental approach Jesus Galeano-Brajones, David Cortes-Polo, Juan F. Valenzuela-Valdes, Antonio M. Mora, Javier Carmona-Murillo • Optimization of massive connections in 5G networks for IoT Pablo Zapata Cano, Alejandro Ramirez-Arroyo, Francisco Luna Valero, Antonio Valenzuela-Valdés, Pedro A. Castillo-Valdivieso and Juan Fco. Valenzuela Valdés
12:30 - 13:30	LUNCH	
13:30- 15:30	IOTSMS Session 2	<p>Chair: Giacomo Iadarola and Sandra Sendra</p> <ul style="list-style-type: none"> • Lightweight Security Scheme for MQTT/MQTT-SN Protocol Ousmane Sadio, Ibrahima Ngom, Claude Lishou • Agent-based IoT coordination for smart cities considering security and privacy Iván García-Magariño, Geraldine Gray, Rajarajan Muttukrishnan, Waqar Asif • User Privacy Risk Analysis For The Internet of Things Akash Aggarwal, Waqar Asif, Habibul Azam, Milan Markovic, Muttukrishnan Rajarajan, Peter Edwards • Retrofitting Security and Privacy Measures to Smart Home Devices Chenghao Ye, Praburam Prabhakar Indra, David Aspinall • Formal Methods for Android Banking Malware Analysis and Detection Giacomo Iadarola, Fabio Martinelli, Francesco Mercaldo, Antonella Santone • LoRaWAN IoT solutions for SmartCities Agustin Candia, Federico Lo Grasso, Laura Fava, Soledad Natacha Represa, Javier Diaz, Diego Vilches • Low Cost LoRa based Network for Forest Fire Detection Roberto Vega-Rodriguez, Sandra Sendra, Jaime Lloret, Pablo Romero-Diaz, Jose Luis Garcia-Navas
13:30 - 15:30	SNAMS Session 2	<p>Chair: Annalisa Socievole and Raji Ghawi</p> <ul style="list-style-type: none"> • Self-adaptive Differential Evolution for Community Detection Clara Pizzuti, Annalisa Socievole • Using Social Network Analysis to Study Diversity in Business Partnerships Rola Abdulkarim, Sherief Abdallah • TCAF: A Framework for Twitter Graph Capture and Analysis Daniel Thilo Schroeder, Konstantin Pogorelov, Johannes Langguth • Tracking Changes in Dynamic Social Networks using Event Logs and Network Snapshots Raji Ghawi, Jürgen Pfeffer • Identifying Influencers using Time Series Analysis Hoda Daou

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		<ul style="list-style-type: none"> • A Sentiment Analysis Approach of Data Volatility for Consumer Satisfaction in the Fashion Industry Feras Al-Obeidat, Anoud Bani Hani, Elhadj Benkhelifa, Oluwasegun Adedugbe, Munir Majdalawieh • Recommendation Based on Learners' Interests in NetLearn System Samira Aouidi, Mahnane Lamia, Mohammed Hafidi
13:30 - 15:30	DTL-BDSN	<p>Chair: Yukikazu Nakamoto and Malak Abdullah</p> <ul style="list-style-type: none"> • RelSeeker: Relationship-based query language in a graph database for social networks Jiajia Wu, Yukikazu Nakamoto • MTRecS-DLT: Multi-Modal Transport Recommender System using Deep Learning and Tree Models Ayat Abedalla, Ali Fadel, Ibraheem Tuffaha, Hani Al-Omari, Mohammad Omari, Malak Abdullah, Mahmoud Al-Ayyoub • Using Popular Search Terms in Stock Price Prediction Izzat Alsmadi, Mahmoud Al-Ayyoub, Mohammad Alsmirat, Yaser Jararweh • From Accuracy to Versatility: Analysing Text Classification Models regarding Transfer Learning Niklas Stoehr, Luis Sanchez Izquierdo, Daniil Gannota, Fabian Falck • Time Series Anomaly Detection Based on GAN Yong Sun, Wenbo Yu, Yuting Chen, Aishwarya Kadam • Automatic Identification of Fake News Using Deep Learning Ethar Qawasmeh, Mais Tawalbeh, Malak Abdullah • An Emotional Feedback Based on Facial Action Coding System for MOOCs with Computer-Based Assessment Mohamed Soltani, Zarzour Hafed, Babahenini Mohamed, Mahmoud Hammad, Mohammad Al-Smadi, Yaser Jararweh
15:30 - 16:00	Coffee break	
16:00 - 18:00	IOTSMS Session 3	<p>Chair: Tamas Pflanzner and Hung Cao</p> <ul style="list-style-type: none"> • Lessons learned from integrating batch and stream processing using IoT data Hung Cao, Marcel Brown, Lizhi Chen, Riley Smith, Monica Wachowicz • Analytics Everywhere for streaming IoT data Hung Cao, Monica Wachowicz • Adaptive, Correlation-Based Training Data Selection for IoT Device Management Anders Eivind Braten, Frank Alexander Kraemer, David Palma • A Crawling Approach to Facilitate Open IoT Data Archiving and Reuse Tamas Pflanzner, Zoltan Feher, Attila Kertesz • RFID in the Wild - Analyzing Stocktake Data to Determine Detection Probabilities of Products Matthias Wölbitsch, Thomas Hasler, Michael Goller, Christian Gütl, Simon Walk, Denis Helic • Adaptive Status Report with Congestion Control in NB-IoT Chenhong Zhou, Jiong Zhao, Hao Liu • Autonomous avatar-based architecture for value-added services provision Karima Khadir, Nawal Guermouche, Thierry Monteil
16:00 - 18:00	SNAMS Session 3	<p>Chair: Paolo Ceravolo and Gulsum Akkuzu</p> <ul style="list-style-type: none"> • Advantages of Having Users' Trust and Reputation Values on Data Sharing Process in Online Social Networks

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		<p>Gulsum Akkuzu</p> <ul style="list-style-type: none"> • Reverse Engineering of Content Delivery Algorithms for Social Media Systems Ittipon Rassameeroj, Shyhtsun Felix Wu • Sampling Online Social Networks with Tailored Mining Strategies Paolo Ceravolo, Arafah Mouhamad, Ernesto Damiani, Azzam Mourad • Sentiment analysis of twitter messages using Word2vec by weighted average Kamel Ahsene Djaballah, Kamel Boukhalifa, Omar Boussaid • Content Similarity Analysis of Written Comments under Posts in Social Media Marzieh Mozafari, Reza Farahbakhsh, Noël Crespi • Semantic and Topological Graphs for Patent Retrieval Andre Rattinger, Jean-Marie Le Goff, Christian Guetl
		<p>Chair: Xavier Schmitt and Moustafa Al-Hajj</p> <ul style="list-style-type: none"> • A Word Representation to Improve Named Entity Recognition in Low-resource Languages Michael Franklin Mbouopda, Paulin Melatagia Yonta • A replicable comparison study of NER software: StanfordNLP, NLTK, OpenNLP, SpaCy, Gate Xavier Schmitt, Sylvain Kubler, Jeremy Robert, Mike Papadakis, Yves LeTraon • Sentiment Analysis of Finnish Customer Reviews Jouko Vankka, Heikki Myllykoski, Tuomas Peltonen, Ken Riippa • ``Where Is My Parcel? `` Fast and Efficient Classifiers to Detect User Intent in Natural Language Constantina Nicolaou, Amal Vaidya, Fabon Dzogang, David Wardrope, Nikos Konstantinidis • Towards a DRS Parsing Framework for French Le Ngoc Luyen, Haralambous Yannis, Philippe Lenca • Hybrid CNNs-LSTM Deep Analyzer for Arabic Opinion Mining Marwan Al Omari, Moustafa Al-Hajj, Amani Sabra, Nacereddine Hammami
16:00 - 18:00	ANLP	

Wednesday 23 rd Oct 2019		
08:00 - 17:00		Onsite registration
09:00 - 09:45		Keynote speaker: Dr. Davor Svetinovic, Khalifa University of Science and Technology, UAE Chair: Elhadj Benkhelifa
9:45 - 10:30		Panel Discussion
10:30 - 11:00		Coffee Break
11:00 - 12:30	IOTSMS Session 4	<p>Chair: Andrew Blower and Miguel Almeida Carvalho</p> <ul style="list-style-type: none"> • Requirements for an IoT Middleware for Utility-Scale Distributed Solar Farms Salsabeel Shapsough, Imran Zualkernan • The architecture of Kaligreen V2: A Middleware aware of hardware opportunities to save energy Hernán Humberto Álvarez Valera, Marc Dalmau, Philippe Roose, Christina Herzog • RConnected Middleware: Location based services for IoT environments

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		<p>Miguel Almeida Carvalho, Joao Nuno Silva</p> <ul style="list-style-type: none"> • RECON: A Real-time Entity Based Access Control for IoT Andrew Blower, Gerald Kotonya • Design and Implementation of a Lightweight Authentication Framework for the Internet of Things Mohammed Alshahrani, Issa Traore, Isaac Woungang
11:00 - 12:30	SNAMS Session 4	<p>Chair: Praboda Rajapaksha and Maria Jose Aramburu</p> <ul style="list-style-type: none"> • Quality Indicators for Social Business Intelligence Maria Jose Aramburu, Rafael Berlanga, Indira Lanza-Cruz, Maria Jose Aramburu • Social Media Campaign Strategies: Analysis of the 2019 Nigerian Elections Bello Shehu Bello, Isa Inuwa-Dutse, Reiko Heckel • Deep Learning Based Extractive Text Summarization: Approaches, Datasets and Evaluation Measures Dima Suleiman, Arafat Awajan • 'On the Shoulders of Giants', Analysis of a Social Network of Intellectual Influence Raji Ghawi, Cindarella Petz, Jurgen Pfeffer • Film Factory Losses: is BitTorrent a Major Responsible? Praboda Rajapaksha, Reza Farahbakhsh, Noel Crespi
11:00 - 12:30	BCCA Session 1	<p>Chair: Belal Abu Naim and Minsu Kwon</p> <ul style="list-style-type: none"> • An Architecture for Blockchain based Peer to Peer Energy Trading Khaled Shuaib, Juhar Abdella • Knowledge Graph-Enhanced Blockchains by Integrating a Graph-Data Service-Layer Belal Abu Naim, Wolfgang Klas • Performance Improvement of Ordering and Endorsement Phase in Hyperledger Fabric Minsu Kwon, Heonchang Yu • Ledgerdata Refiner: A Powerful Ledger Data Query Platform for Hyperledger Fabric Ence Zhou, Haoli Sun, Bingfeng Pi, Jun Sun, Kazuhiro Yamashita, Yoshihide Nomura • A Study of inequality in the Ethereum Smart Contract ecosystem Bishwas C Gupta, Sandeep K. Shukla
12:30 - 13:30	LUNCH	
13:30-15:30	IOTSMS Session 5	<p>Chair: Roger Young and Gaurav Singal</p> <ul style="list-style-type: none"> • An Innovative eHealth System Powered By 5G Network Slicing Evgenia Kapassa, Marios Touloupou, Argyro Mavrogiorgou, Athanasios Kiourtis, Dimitra Giannouli, Konstantina Katsigianni, Dimosthenis Kyriazis • Indoor Occupancy Prediction using an IoT Platform Alec Parise, Miguel A. Manso-Callejo, Hung Cao, Marco Mendoca, Harpreet Kohli, Monica Wachowicz • A Flow Based Architecture for Efficient Distribution of Vehicular Information in Smart Cities Roger Young, Sheila Fallon, Paul Jacob • Person Identification using Autonomous Drone Bhavya Pareek, Priyanka Gupta, Gaurav Singal, Riti Kushwaha • A WSN-based monitoring system to control Sewerage Javier Rocher, Jose Luis Garcia-Navas, Oscar Romero, Jaime Lloret • Remote Attestation as a Service for IoT Mauro Conti, Edlira Dushku, Luigi V. Mancini, Md Masoom Rabbani, Silvio Ranise

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PROGRAMME

13:30 - 15:30	SNAMS Session 5	Chair: Li Jiacheng and Yahya Tashtoush
		<ul style="list-style-type: none"> • Detection and analysis of medical misbehavior in online forums Elise Bigeard, Natalia Grabar • PrivacyBot: Detecting Privacy Sensitive Information in Unstructured Texts Welderufael B. Tesfay, Jetzabel Serna, Kai Rannenber • Semantic Based Question Answering System on Travel Ontology Maria Rahim, Zakia Turabee, Quratulain Rajput, Shakeel Khoja • Tweets Emotion Prediction by Using Fuzzy Logic System Yahya Tashtoush, Dana Orabi • Population Dynamics in the Iterated Prisoner Dilemma with prior commitment Suhail Odeh, Pasquale Caianiello • An Improvement Proposal of Genetic Algorithms Based on Information Entropy and Game Theory Li Jiacheng, Li Lei • Multi-Label Emotion Classification for Arabic Tweets Shadi Alzubi, Omar Badarneh, Bilal Hawashin, Mahmoud Al-Ayyoub, Nouh Alhindawi, Yaser Jararweh
13:30 - 15:30	BCCA Session 2	Chair: Chin-Wei Tien and Taylor Hardin
		<ul style="list-style-type: none"> • Preserving patient's privacy using proxy re-encryption in permissioned blockchain Devendra Meena, Ras Dwivedi, Sandeep Shukla • SoliAudit: Smart Contract Vulnerability Assessment Based on Machine Learning and Fuzz Testing Jian-Wei Liao, Tsungta Tsai, Chia Kang He, Chin-Wei Tien • Apex: a High-Performance Hierarchical Distributed Ledger Marc X. Makkes, Robert Diebels • Towards Improved Trust in Threat Intelligence Sharing using Blockchain and Trusted Computing Yichang Wu, Yuansong Qiao, Yuhang Ye, Brian Lee • Decentralized Cloud Scheduling via SmartContracts. Operational constraints and costs Adrian Spataru, Laura Ricci, Dana Petcu, Barbara Guidi • Blockchain in health data system: a survey Taylor Hardin, David Kotz • Predictive Proof of Metrics - a new Blockchain consensus Protocol Venkata Siva Vijayendra Bhamidipati, Ashok Srinivasa Murthy, Michael Chan, Derek Chamorro, Arpit Jain, Aniruddh Kamalapuram Muralidhar
15:30 - 16:00	Coffee break	
16:00 - 18:00	IOTSMS Session 6	Chair: Alexander Kern and Moath Jarrah
		<ul style="list-style-type: none"> • DEVS-Based IoT Management System for Modeling and Exploring Smart Home Devices Majeda Albataineh, Moath Jarrah • Recording Provenance of Food Delivery Using IoT, Semantics and Business Blockchain Networks Milan Markovic, Peter Edwards, Naomi Jacobs • Smart Traffic Light Controller System Luiz Oliveira, Leandro Manera, Paulo Luz • Attribute-based network and system access control architecture for industrial machines Alexander Kern, Reiner Anderl

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		<ul style="list-style-type: none"> • A Decentralized Optimization Algorithm for Residential Demand Side Management in Smart Grids Sarah M. Azzam, Muhamed Salah, Tallal Elshabrawy, Mohamed Ashour • Comparative analysis of abstraction layer performance of IoT devices management platforms Andrea Maria N. C. Ribeiro, Pedro Rafael Ximenes Do Carmo, Joao Victor Lucena Do Monte, Djamel Sadok, Patricia Takako Endo, Judith Kelner • An IoT Based Inventory System for High value Laboratory Equipment Wasim Raad
16:00 - 18:00	CNS	<p>Chair: Massimo Esposito and Raffaele Guarasci</p> <ul style="list-style-type: none"> • Network: the network based cognitive model of distributed concrete noun meanings Kaoutar Skiker, Mounir Maouene • Neural Paraphrasing by Automatically Crawled and Aligned Sentence Pairs Achille Globo, Antonio Trevisi, Andrea Zugarini, Leonardo Rigutini, Marco Maggini, Stefano Melacci • Verbal and Non-verbal Markers for the Analysis of Political Discourse Alessandro Maisto, Serena Pelosi, Daniela Trotta • Self-Organising and Self-Learning Model for Soybean Yield Prediction Mona Alghamdi, Plamen Angelov, Raul Gimenez, Mariana Rufino, Eduardo Soares • Towards a gold standard dataset for Open Information Extraction in Italian Raffaele Guarasci, Emanuele Damiano, Aniello Minutolo, Massimo Esposito • Inference On The Edge: Performance Analysis of an Image Classification Task Using Off-the-shelf CPUs and Open-Source ConvNets Valentino Peluso, Roberto Giorgio Rizzo, Antonio Cipolletta, Andrea Calimera • Adaptive Treatment Assisting System for Patients using Machine Learning Muddasar Naeem, Antonio Coronato, Giovanni Paragliola
16:00 - 18:00	BCCA Session 3	<p>Chair: Shingo Fujimoto and Thorsten Weber</p> <ul style="list-style-type: none"> • Improving Data Security in Message Communication between ACT and Aircraft using Private Blockchain Yusuf Zakir, Khondker S. Hasan, Naomi Wiggins, Amlan Chatterjee • ConnectionChain: Secure Interworking of Blockchains Shingo Fujimoto, Yoshiki Higashikado, Takuma Takeuchi • Full-text Search for Verifiable Credential Metadata on Distributed Ledgers Zoltan Andras Lux, Felix Beierle, Sebastian Zickau, Sebastian Göndör • Acceptable Privacy for XAND Blockchain Debasish Ray Chawdhuri, Jeffrey Kramer, Spencer Judge • Blockchain Technology in Supply Chain Management: Preliminary Study Soha Yousuf, Davor Svetinovic • Transactive energy on Hyperledger Fabric Nikita Karandikar, Antorweep Chakravorty, Chunming Rong • Trading User Data: A Blockchain Based Approach Thorsten Weber, Wolfgang Prinz
20:00-23:00	GALA DINNER	

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Thursday 24 th Oct 2019		
08:00 - 17:00		Onsite registration
09:00 - 09:45		Keynote 4: Prof.L. Alfredo Grieco, Politecnico di Bari, Italy Chair: Sandra Sendra
9:45 - 10:30		Keynote 5: Dr. Mourad Oussalah, University of Oulu, Finland Chair: Paolo Ceravolo
10:30- 11:00		Coffee Break
11:00 - 12:30	IOTSMS Session 7	<p>Chair: Nabil El Ioini and Mohammad Al-Zinati</p> <ul style="list-style-type: none"> • A Mobile-Edge Computing Bio-Surveillance Framework for Multiple Biological Threat Detection Mohammad Al-Zinati, Taha Almasri, Mohammad Alsmirat, Yaser Jararweh • Semantic Modelling of Plans and Execution Traces for Enhancing Transparency of IoT Systems Milan Markovic, Daniel Garijo, Peter Edwards, Wamberto Vasconcelos • Kata Containers: An Emerging Architecture for Enabling MEC Services in Fast and Secure Way Alessandro Randazzo, Ilenia Tinnirello • Blockchain Based Service Continuity in Mobile Edge Computing Nabil El Ioini, Van Thanh Le, Claus Pahl • UAVs Reliable transmission for Multicast protocols in FANETs Gaurav Singal, Vijay Laxmi, Manoj Gaur, D Vijay Rao, Riti Kushwaha
11:00 - 12:30	SNAMS Session 6	<p>Chair: Wael Etaiwi and Oksana Severiukhina</p> <ul style="list-style-type: none"> • Stemming Effects on Sentiment Analysis using Large Arabic Multi-Domain Resources Samar Alsaqqa, Arafat Awajan, Said Ghoul • Keywords Extraction from Arabic Documents Using Centrality Measures Wael Etaiwi, Arafat Awajan, Dima Suleiman • Segment-wise users? response prediction based on activity traces in online social networks Oksana Severiukhina, Klavdiya Bochenina • Comparison of Lexicon Performances on Unstructured Behavioral Data Yohn Jairo Parra Bautista, Richard Alo, David Olson • Simmelian ties on Twitter: empirical analysis and prediction Isa Inuwa-Dutse, Mark Liptrott, Yannis Korkontzelos
11:00 - 12:30	SAMSN Session 1	<p>Chair: Jinfeng Li and Jafar Abukhait</p> <ul style="list-style-type: none"> • Detecting Offensive language on Arabic Social Media using Deep Learning Hanane Mohaouchane, Asmaa Mourhir, Nikola S. Nikolov • A Novel Twitter Sentiment Analysis Model with Baseline Correlation for Financial Market Prediction with Improved Efficiency Xinyi Guo, Jinfeng Li • A Transfer Learning based Approach for Aspect Based Sentiment Analysis Xing Fang, Jie Tao • Facilitating On-Line Harmonic Estimation Based on Robust Adaptive RBFNN Eyad Almaita, Jumana Al Shwawreh

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		<ul style="list-style-type: none"> • A Multi-agent Design of a Computer Player for Nine Men's Morris Board Game using Deep Reinforcement Learning Jafar Abukhait, Ahmad Aljaafreh, Naeem Al-Oudat • MapReduce-based Capsule Networks Sun Jin Park, Ho-Hyun Park
11:00 - 12:30	HMIMS	<p>Chair: Ahmad Baghal and Damian-Emilio Gibaja-Rome</p> <ul style="list-style-type: none"> • HealthGuard: A Machine Learning-Based Security Framework for Smart Healthcare Systems Akm Iqtidar Newaz, Amit Kumar Sikder, Mohammad Ashiqur Rahman, A. Selcuk Uluagac • Adaptive Strategies for Patient Monitoring in Mobile Health Applications Mathieu Bagot, Pascale Launay, Frédéric Guidec • International Cooperation and Coordination for improving Health Systems Damian-Emilio Gibaja-Rome, Rosa-Maria Canton-Croda • Leveraging Graph Models to Design Acute Kidney Injury Disease Research Data Warehouse Ahmad Baghal • Agile Natural Language Processing Model for Pathology Knowledge Extraction and Integration with Clinical Enterprise Data Warehouse Ahmad Baghal, Shaymaa Al-Shukri, Annu Kumari
12:30 - 13:30	LUNCH	
13:30-15:30	Tutorial	Dr. Nabil Abdennadher, University of Applied Sciences, Western Switzerland, Switzerland Combining Edge and Cloud for smart cities applications
13:30-15:30	IOTSMS Session 8	<p>Chair: Dario Fanucchi and Fouad Yaseen</p> <ul style="list-style-type: none"> • Ms Pacman and the Robotic Ghost: A Modern Cyber-Physical Remake of the Famous Pacman Game Konstantinos Panayiotou, Emmanouil Tsardoulis, Christopher Zolotas, Iason Paraskevopoulos, Alexandra Chatzicharistou, Alexandros Sahinis, Stathis Dimitriadis, Dimitra Ntzioni, Christopher Mpekos, Giannis Manousaridis, Aris Georgoulas, Andreas Symeonidis • A Novel Mobile Node's Identifier for Beyond 5G SDN-based Networks Fouad Yaseen, Hamed Al-Raweshidy • Networks-on-Chip based Deep Neural Networks Accelerators for IoT Edge Devices Maurizio Palesi, Giuseppe Ascia, Davide Patti, Salvatore Monteleone, Vincenzo Catania, John Jose • Improving Link Quality Estimation Accuracy in 6TiSCH Networks Dario Fanucchi, Francesca Righetti, Carlo Vallati, Barbara Staehle, Giuseppe Anastasi • Adaptive Radio Resource Management Scheme in 5G networks support for IoT Applications Khitem Ben Ali, Faouzi Zarai • An Anonymity Technique for Base Stations Against Traffic Volume Analysis in Wireless Sensor Networks and Internet of Things Uthman Baroudi, Farouq Aliyu, Essa Shahra, Ahmed Al-Naser • Unsupervised Anomaly Alerting for IoT-Gateway Monitoring using Adaptive Thresholds and Half-Space Trees Rene Wetzig, Anton Gulenko, Florian Schmidt
13:30 - 15:30	ITCVT	Chair: Waldemar Titov and Mohammad Alsmirat

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PROGRAMME

		<ul style="list-style-type: none"> • Performance evaluation of deterministic communication in the railway domain Daniel Onwuchekwa, Roman Obermaisser • Virtual Switch for Integrated Real-Time Systems based on SDN Hongjie Fang, Roman Obermaisser • Cybersecurity and Driverless Cars: In Search for a Normative Way of Safety Evariste Some, Gregory Gondwe, Evan W. Rowe • Secure V2V Communication with Identity-based Cryptography from License Plate Recognition Tudor Andreica, Bogdan Groza • Prototyping Approach of Networking Road Users for Cooperative Collision Avoidance using Smartphones Waldemar Titov, Felix Boehm, Thomas Schlegel • Automated ARIMA Model Construction for Dynamic Vehicle GPS Location Prediction Mohammad Alsmirat, Mohammad Alzyout, Mohammad Al-Saleh • DAGMaR: A DAG-based Robust Road Membership Estimation Framework for Scenario Mining Lars Klitzke, Johannes Meyer, Tilman Leune, Carsten Koch, Frank Koster
		Chair: Dimitri Demergis and Mohammed Elbes
13:30 - 15:30	SAMSN Session 2	<ul style="list-style-type: none"> • A smart Geo-Location Job Recommender System Based on Social Media Posts Ala Mughaid, Ibrahim Obeidat, Bilal Hawashin, Shadi Alzubi, Darah Aqel • Arabic Light Stemming: A Comparative Study between P-Stemmer, Khoja Stemmer, and Light10 Stemmer Tarek Kanan, Odai Sadaqa, Ashraf Almhira, Emran Kanan • P-Stemmer or NLTK Stemmer for Arabic Text Classification? Mohammed Elbes, Amal Aldajah, Odai Sadaqa • Predicting Eurovision Song Contest Results by Interpreting the Tweets of Eurovision Fans Dimitri Demergis • Features Found in Twitter Data and Examination of Retweeting Behavior Shigeo Shioda, Masato Minamikawa • Random Forest location prediction from social networks during disaster events Rachid Ouaret, Babiga Birregah, Eddie Soulier, Samuel Auclair, Faiza Boulahya • A multi-levels Geo-location based crawling method for social media platforms Shadi Alzubi, Darah Aqel, Ala Mughaid, Yaser Jararweh
		Chair: Lorena Parra and Carlo Guidi
13:30 - 15:30	MarSS + TeCrop	<ul style="list-style-type: none"> • Simulation of the performance of the acoustic positioning system of the underwater KM3NeT neutrino telescope Carlo Guidi • A Compact Array Transducer for Full Calibration of Underwater Acoustic Detection Neutrino Telescopes Didac D.Tortosa, Miguel Ardid, Juan A. Martinez-Mora • Assessing the yield of a multi-varieties crop of Camelina sativa (L.) Crantz through NDVI remote sensing David Mostaza-Colado, Pedro V. Mauri Ablanque, Anibal Capuano • Remote Sensing Data: Useful Way for the Precision Agriculture Salima Yousfi, Jose Fernando Marin Peir, Gregorio Rincon de la Ho, Pedro V. Mauri Ablanque • Low-cost Soil Moisture Sensors Based on Inductive Coils Tested on Different Sorts of Soils Mar Parra, Lorena Parra, Jaime Lloret, Pedro V. Mauri and Josep V. Llinares • Automated Irrigation Management Platform Using a Wireless Sensor Network Amine Dahane, Bouabdellah Kechar, Youcef Meddah and Oussamayahia Benabdallah

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PROGRAMME

15:30 - 16:00	Coffee break	
16:00 - 18:00	SAMS Session 3	Chair: Ivan Garrido Marquez and Bilal Hawashin
		<ul style="list-style-type: none"> • Automatic Classification of Apps Reviews for Requirement Engineering (Exploring The Customers Need from Healthcare Applications) Nadeem Al Kilani, Rami Tailakh, Abualsoud Hanani • Topics in the Russian Twitter and relations between their interpretability and sentiment Svetlana Bodrunova, Ivan Blekanov, Mikhail Kukarkin • A Brief Analysis of Amazon Online Reviews Shadi Alzubi, Abdalraheem Alsmadi, Sokyna Alqatawneh, Mahmoud Al-Ayyoub, Bilal Hawashin, Yaser Jararweh • The Utilization of WhatsApp to Determine the Obsessive-Compulsive Disorder (OCD): A Preliminary Study Sokyna Alqatawneh, Shadi Alzubi, Rana Ramadan, Fadwa Ahalaiqa, Ikhals Abdel-Qader, Ali Aldahoud • Sociopolitical Network for Ekphrastic Poetry and Algorithmic Co-authoring Nicholas Trefonides, Emmanuel Saake • Combining free collaborative and controlled annotation in social media Ivan Garrido Marquez, Adeline Nazarenko, François Lévy
16:00 - 18:00	DSEA	Chair: Maria Matskevichus and Florian Schmidt
		<ul style="list-style-type: none"> • Graph-based Feature Selection Filter Utilizing Maximal Cliques Daniel Thilo Schroeder, Kevin Styp-Rekowski, Florian Schmidt, Alexander Acker, Odej Kao • A Step Towards a Data Quality Theory Anastasija Nikiforova, Janis Bicevskis, Zane Bicevska, Ivo Oditis, Girts Karnitis • Application of Big Data and Technologies for Integrated Water Resources Management - A Survey Ekkehard Holzbecher, Hind Barghash, Ahmed Hadidi, Khadija Al Balushi • Pair Data Division Algorithm For Handling Data Classification Abdul Razaque, Kanapina Auau, Sailaubek Seitzhnovsa ., Seitzhnov Seitzhnovsa, Turganov Vonagrut, Tsoy Danatsoy, Muder Almiani • Clustering interest graphs for customer segmentation problems Ivan Derevitsky, Oksana Severiukhina, Klavdiya Bochenina • Hyperparameters tuning for machine learning models for time series forecasting Peter Gladilin, Maria Matskevichus • Resolving Conflict of Interests and Recommending Expert Reviewers for Academic Publications Using Linked Open Data Heba Al-Jarrah, Muntaha Al-Asa'D, Saad Al-Zboon, Saja Tawalbeh, Mahmoud Hammad, Mohammad Al-Smadi
16:00 - 18:00	FCST + MCSMS	Chair: Manabu Hirano and Marinos Tsantekidis
		<ul style="list-style-type: none"> • Efficient Monitoring of Library Call Invocation Marinos Tsantekidis, Vassilis Prevelakis • Machine Learning Based Ransomware Detection Using Storage Access Patterns Obtained From Live-forensic Hypervisor Manabu Hirano, Ryotaro Kobayashi • Differences in Android Behavior Between Real Device and Emulator: A Malware Detection Perspective

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		<p>Alejandro Guerra-Manzanares, Hayretdin Bahsi, Sven Nomm</p> <ul style="list-style-type: none">• WSN-based Interactive Dynamic Maps for Guidance in Al-Masjid Al-Haram Wafaa Kanakri, Lo'Al Tawalbeh• Two Factor Authentication using Twofish Encryption and Visual Cryptography Algorithms for Secure Data Communication Duisen Gulsezim, Seiitkaliyeva Zhansaya, Abdul Razaque, Yestayeva Ramina, Fathi Amsaad, Muder Almiani, Raouf Ganda, Ahmed Oun
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Friday
25th Oct 2019

SOCIAL ACTIVITY and NETWORKING

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WORKSHOPS

The International Symposium on Blockchain Computing and Applications (BCCA 2019)

<http://emergingtechnet.org/BCCA2019/index.php>

The Third International Workshop on Multimedia Computing, Networking and Applications (MCNA 2019)

<http://emergingtechnet.org/MCNA2019/index.html>

The International Workshop on Marine Sensors and Systems (MarSS 2019)

<http://jilloret.webs.upv.es/marss2019/>

The International Workshop on Technology for Precision Agriculture and Crops (TeCrop 2019)

<http://jilloret.webs.upv.es/tecrop2019/>

The International Workshop on Efficient and Smart 5G Technologies for IoT (ES5TI 2019)

<http://swat.ugr.es/es5ti2019/index.html>

The 5th International Workshop on Mobile Cloud Computing systems, Management, and Security (MCSMS 2019)

<http://emergingtechnet.org/MCSMS2019/>

The 2nd International Workshop on Intelligent Transportation and Connected Vehicles Technologies (ITCVT 2019).

<http://emergingtechnet.org/ITCVT2019/index.php>

The 2nd International Symposium on Future Cyber Security Technologies (FCST 2019)

<http://emergingtechnet.org/FCST2019/>

The 7th International workshop on Big Data and Social Networking Management and Security (BDSN 2019)

<http://emergingtechnet.org/BDSN2019/>

The 3rd International Workshop on Data Science Engineering and its Applications (DSEA 2019)

<http://emergingtechnet.org/DSEA2019/>

The 5th International Workshop on Online Social Networks Technologies (OSNT 2019)

<http://emergingtechnet.org/OSNT2019/default.php>

The 3rd International Workshop on Advances in Natural Language Processing (ANLP 2019)

<http://emergingtechnet.org/ANLP2019/default.php>

The 2nd International Workshop on Deep and Transfer Learning (DTL 2019)

<http://emergingtechnet.org/DTL2019/default.php>

The International Workshop on Sentiment Analysis and Mining of Social Networks (SAMSN 2019)

<http://emergingtechnet.org/SAMSN2019/>

The International Workshop on Cognitive and Neural Systems (CNS 2019)

<http://emergingtechnet.org/CNS2019/index.php>

The International Symposium on Health and Medical informatics, Management and Security (HMiMS 2019)

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PROGRAMME

Keynote: Prof.L. Alfredo Grieco, Politecnico di Bari, Italy

An Information Centric Networking Approach to Publish-Subscribe in mobile IoT systems.



Abstract: Information Centric Networking emerged more than one decade ago as an alternative approach to the Future Internet, based on name driven networking primitives. Since most of IoT services are information centric by design, the scientific community is actively investigating novel ICN-IoT architectures to circumvent the limitations of host-centric approaches. In this context, it is imperative to evaluate how different ICN architectures cope with Publish-Subscribe approaches with different degree of mobility. Starting from this premise, the keynote will: (i) briefly summarize the key features of the ICN rationale; (ii) introduce the approaches proposed so far to support publish-subscribe in ICN-IoT architectures; (iii) highlight the technical issues that can arise in presence of mobility; (iv) illustrate possible solutions to those issues; and (v) draw future research directions.

Biography: L. Alfredo Grieco received the Dr. Eng. degree (with honors) in electronic engineering from “Politecnico di Bari,” Bari, Italy, in Oct. 1999 and the Ph.D. degree in information engineering from “Università di Lecce,” Lecce, Italy, on December 2003. From Jan. 2005 to Oct. 2014, he held an Assistant Prof. position at the “DEI - Politecnico di Bari”. From March to June 2009, he has been a Visiting Researcher with INRIA (Sophia Antipolis, France), working on the topic of Internet measurements. From Oct. to Nov. 2013, he has been a Visiting Researcher with LAAS-CNRS (Toulouse, France) working on Information Centric Networking design of M2M systems. From Nov. 2014 to Dec. 2018, he has been an Associate Professor in Telecommunications at Politecnico di Bari (DEI). Since Dec. 2018, he is a Full Professor in Telecommunications at Politecnico di Bari (DEI). He authored more than 150 scientific papers published in venues of great renown that gained more than 6000 citations. His current research interests include: Internet of Things, Information Centric Networking, and Nano-communications. He is the Founder Editor in Chief of the Internet Technology Letters Journal (Wiley) and serves as EiC of the Transactions on Emerging Telecommunications Technologies (Wiley) and as associate editor of the IEEE Transactions on Vehicular Technology (for which he has been awarded as top associate editor in 2012 and 2017). He has been constantly involved as Technical Program Committee member of many prestigious conferences. Within the Internet Engineering Task Force (Internet Research Task Force), he is contributing (as author of RFC 7554) new standard protocols for industrial IoT applications (new standard architectures for tomorrow ICN-IoT systems). Starting from 2016 he is a Distinguished Lecturer for the IEEE VTS. From Jan. 2019, he is Founding Member and Subarea-Chair of the IEEE SIG on Intelligent Internet Edge.

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PROGRAMME

Keynote: Dr. Gabriel Maciá-Fernández, University of Granada, Spain
Cybersecurity and IoT: open challenges and perspectives.



Abstract: With the advent of smart cities, smart homes and smart everything, the Internet-of-things (IoT) has become a very active area with an ever-increasing impact in industry, education, homes, and current society in general. Due to this importance, IoT has attracted the attention of cybersecurity criminals, that leverage ubiquitous and vulnerable low-cost and low-resources devices to deploy their botnets. In this talk, we will discuss the main security problems that appear in the IoT deployment nowadays. A review of the most important vulnerabilities and attack strategies will be done, as well as the main existing security solutions. Finally, open challenges and new perspectives will be presented for discussion within the research community.

Biography: Gabriel Maciá-Fernández is an Associate Professor at the Department of Signal Theory, Telematics and Communications of the University of Granada (Spain) and a member of the cybersecurity research group (NESG). He received a MS in Telecommunications Engineering from the University of Seville, Spain, and the Ph.D. in Telecommunications Engineering from the University of Granada in 2007. In the period 1999-2005, he worked as a specialist consultant at Vodafone Spain before joining the University of Granada. His research interests are on computer and network security, with special focus on intrusion detection, reliable protocol design, network information leakage and denial of service. He is currently the head of the cybersecurity master program of the University of Granada and the founder of the hackiit hacking group.

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PROGRAMME

Keynote: Dr.Davor Svetinovic, Khalifa University of Science and Technology, UAE
Blockchain – IoT – AI Trust Nexus.



Abstract: Blockchain is the underlying technology behind Bitcoin and it is finding its way in the development of a variety of new software systems. With its innovative approach to decentralized computation and assets management, the blockchain has not only potential to solve a number of system scalability, reliability, security, and privacy issues, but also to revolutionize software systems development in a way similar to what the Internet did. For example, the integration of the blockchain, artificial intelligence (AI), and the Internet of Things (IoT) provides a promising new research and development direction that has generated significant research funding and venture capital investments. However, the lack of explanation when it comes to the decisions made by today's

AI algorithms is a major drawback with respect to trust in such systems, e.g., deep neural networks do not offer control or reasoning over their internal processes. In this keynote talk, we present the trust issues common to blockchain – IoT – AI systems and their integration. We present some directions for achieving more trustworthy and explainable blockchain – AI – IoT system integration by leveraging features of blockchain, smart contracts, trusted oracles, and decentralized storage. We discuss a framework for complex AI systems in which the decision outcomes are reached based on decentralized consensus of multiple AI predictors. Finally, we discuss few key application areas with practical use cases.

Biography: Davor Svetinovic is an Associate Professor at Khalifa University of Science and Technology, UAE, and a Research Affiliate at MIT Media Lab, USA. His primary areas of expertise are software systems engineering and systems security. He received his PhD degree in Computer Science from University of Waterloo, Canada. Previously he worked as a visiting professor and research affiliate at the Massachusetts Institute of Technology (MIT); and as a postdoctoral researcher at Lero -- the Irish Software Engineering Center, Ireland, and Vienna University of Technology, Austria. He leads the Strategic Requirements and Systems Security Group (SRSSG), and he has extensive experience working on complex multi-disciplinary research projects. He has published over 75 papers in leading journals and conferences. His current research interests include systems security, privacy, and trust; blockchain engineering; constrained AI; smart grids energy trading; and cryptocurrencies. He is a Senior Member of IEEE and ACM.

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PROGRAMME

Keynote: Dr. Anastasia Giachanou

Misinformation Detection in Online Social Networks using Content Information



Abstract: Misinformation is considered one of the most critical challenges of recent years. Despite all the attempts, the automatic detection of misinformation still remains an open problem. Although misinformation and fake news exist for a long period of time, the ubiquitousness of social media has facilitated their propagation with severe consequences for the society. For example, the “Pizzagate” shooting incident was a result of fake news that went viral claiming the involvement of a restaurant in human trafficking. This talk will focus on the topic of misinformation detection. First, I will introduce the concept and characteristics of the different types of misinformation and disinformation such as fake news, satire, rumours that go viral in online social networks. Then, I will present some of the most recent detection approaches with a particular focus on approaches that exploit psycholinguistic information (i.e., emotion, sentiment, informal language). Finally, I will discuss challenges and open issues in the field of misinformation detection.

Biography: Dr. Anastasia Giachanou is a Research Fellow at the Universitat Politècnica de València (UPV) and a member of the Natural Language Engineering Lab headed by Prof. Paolo Rosso. She received her PhD from the Faculty of Informatics at the University of Lugano, in Switzerland working on the topic of “Tracking Opinion Evolution on Social Media”. Her research interests include fake news detection, credibility in news, bot detection, sentiment and emotion analysis, temporal opinion mining and information retrieval. She serves on the editorial board of Information Processing & Management Journal and as a PC member for well-established conferences such as SIGIR, ECIR, CIKM, and ECAI. She is a recipient of an Swiss National Foundation (SNF) early post-doc grant on the project "Early Detection of Fake News on Social Media".

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PROGRAMME

Keynote: Prof. Mourad Oussalah, University of Oulu, Finland

Social Network Analysis. Why is it needed? How to do it? What can we expect from it?



Abstract: In the era of social media and exponential increase of use of social network sites, e.g., Facebook, Twitter, Instagram, professional online communities and networking, social network analysis (SNA) has seen a new birth and new market opportunities. Traditionally, SNA explores the relationship between social entities themselves, examining both the content and patterns of such relationships in order to understand the behavior of the main social actors and predict development of the underlined communities. This talk will explore the background, theoretical concepts and future directions of this interdisciplinary hot topic. We will especially focus on criminology related applications and highlight the contributions of associated disciplines of text mining and social psychology in order to comprehend user behaviors and community development. Particularly, with the availability of large-scale networked data and the development of open data framework, SNA has seen new challenges, which, despite the proliferation of open source tools, new paradigm of big data SNA is emerging. This talk will shed the light on these recent developments and the implications on future criminology research.

Biography: Mourad Oussalah is a Research Professor in University of Oulu, Faculty of Information Technology and Electrical Engineering, Centre for Machine Vision and Signal Analysis, where he leads the Social Mining Research Group. Prior joining University of Oulu, he was with the University of Birmingham, UK from 2003-2016. He also held research positions at City University of London and KU Leuven in Belgium, and Visiting Professor position in University of Evry Val Essonnes of France (summer 2006), New Mexico of USA (summer 2009) and Xian of China (Fall 2018). Dr. Oussalah research has concentrated mainly on information and data fusion, text mining, information retrieval and uncertainty handling where he published more than 250 international publications and supervised a dozen of PhD students and more than 40 Msc students, provided more than 20 keynote talks at international conferences and served as PC members of more than 60 international conferences and won best paper awards at IEEE International Conference on Cybernetic Intelligent Systems 2008, WCE, 2015 and best paper nominee at KDIR 2017. He is a Fellow of Royal Statistical Society and Senior member of IEEE and acted as executive of IEEE SMC UK & Ireland Chapter from 2002 till 2016. Dr. Oussalah is also leading and participating into several EU projects He also secured funding from several foundations (e.g., Finnish Cancer Research, Nokia and Nuffield foundations).

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Tutorial: Prof. Nabil Abdennadher, University of Applied Sciences, Western Switzerland
Tutorial Abstract: Combining Edge and Cloud for smart cities applications



Abstract: Cloud computing traditionally serves IoT applications by providing storage for generated data, and CPU power to produce value for their businesses. However, the growth of IoT is affecting the way traditional cloud architectures work. The increased amount of data to be transferred is creating bottlenecks while increasing the latency. Furthermore, sending such a big amount of data to a cloud environment in very short periods of time is inefficient, apart from cumbersome and expensive. This implies that much of this data must be aggregated at the “end points” where data is collected. And here is where Edge computing comes in. Edge Computing is not devised as a competitor to cloud; it is envisioned as the perfect ally for a broad spectrum of applications for which traditional Cloud Computing is not sufficient. Combining the edge approach with IoT sensors and Cloud would add flexibility and choices for customers. This tutorial will answer these questions: 1. What problems does edge computing solve? 2. How can we take advantage of the edge computing?

3. How does edge computing and cloud computing work together? It will also present current technologies for designing hybrid platforms (edge, cloud) for IoT applications. The tutorial will also present a generic platform for intelligent IoT applications based on a shareable backbone infrastructure composed of three layers: IoT objects, edge devices and cloud infrastructure. Our framework: • delivers machine learning models (MLM) learned in the cloud over data streams collected by the edge, from IoT devices. • supports lightweight learning algorithms that can execute on the edge and self-adapt without any synchronisation with the cloud The platform delivers the following functionalities: 1. Coordinate application deployment from the cloud to the edge. The platform will target cloud, edge and IoT devices. IoT applications can be deployed, configured, operated and maintained, using a shared infrastructure, where several applications can coexist. 2. Continuously integrate, deploy and maintain MLMs on edge devices. Learning, which requires considerably more resources, will take place in the cloud and the learned models will be deployed at the edge. This will considerably decrease the response time and the necessary bandwidth between the cloud and edge layer, since real-time data processing will take place close to the IoT devices. With this functionality, the edge triggers the learning process, although it is performed in the cloud. 3. Use lightweight, yet powerful, machine learning models that can be setup by, and deployed on, resource constrained devices that are typically used by edge devices. This alternative is possible for some IoT applications for which the learning process is light enough to run on the edge. With this functionality, the edge is more autonomous, its intelligence is “improved” locally.

Biography: Nabil Abdennadher received the Diploma in Engineering (Computer science) from Ecole Nationale des Sciences de l’Informatique (ENSI, Tunisia), and the Ph.D. degrees in Computer Science from University of Valenciennes (France) in 1988 and 1991, respectively. He was an assistant professor at the University of Tunis II from 1992 to 1998 and a research assistant at the Computer Science Department of the Swiss Federal Institute of Technology (EPFL) from 1999 to 2000. In 2001, he joined the Department of Computer Engineering at the University of Applied Sciences, Western Switzerland (HES-SO, hepia) as an assistant HES professor. In 2008, he became an associate HES professor and in 2017 he was promoted to full HES professor. He is currently head of both the inIT Research Institute and the Large Scale Distributed Systems research group (Isds.hesge.ch). His major research interests include high performance and distributed computing, Internet of Things and urban computing. Since 2019, he is member of the Swiss Alliance for Data-Intensive Services. He was a member of the Swiss National Grid Association (Swing) Executive Board from 2008 to 2013. Nabil Abdennadher participates in several research projects funded by Europe and several Swiss research foundations (InnoSuisse, swissuniversities, Switch AAI, etc.). He is also the founder of two companies in Tunisia and Switzerland.

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Just 5 minutes from the city centre by metro, next to the Parque Tecnológico de la Salud, Los Carmenes football stadium and the Sports Arena. With easy access to the motorway, it makes the hotel the ideal location to visit La Alhambra and Sierra Nevada. Featuring an avant-garde style, the accommodation has been especially designed in an oval shape to provide rooms with views of the Sierra Nevada and La Alhambra.

The hotel boasts the latest services and facilities with bright spacious rooms. You can find it all right here: rooms with a modern decor and views, lobby-bar, restaurants, spa, gym, outdoor swimming pool (in the summer) and parking.



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