ACM SAC 2019

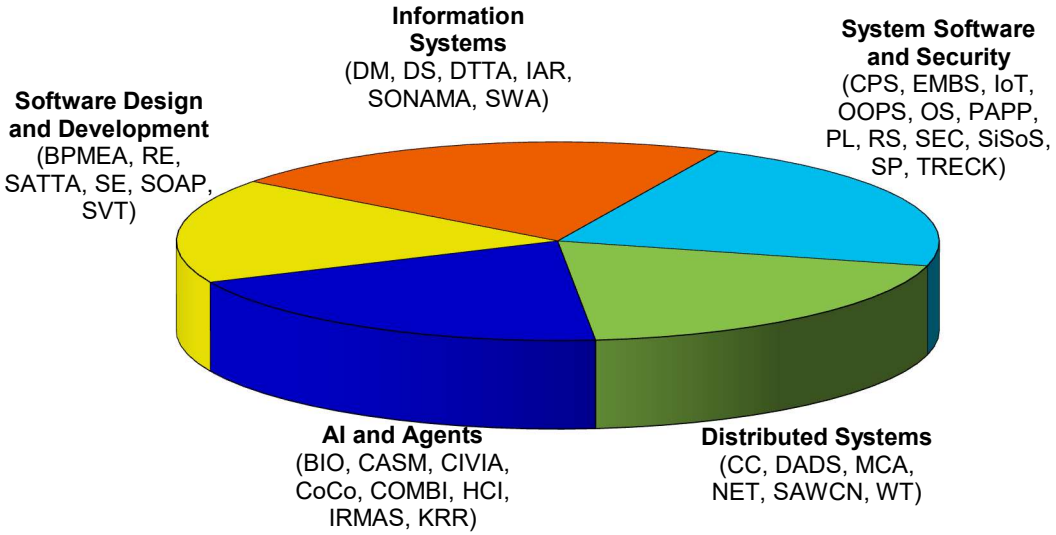
The 34th Annual ACM Symposium on Applied Computing

PROCEEDINGS OF THE 2019 ACM
SYMPOSIUM ON APPLIED COMPUTING

Limassol, Cyprus
April 8-12, 2019

Organizing Committee

Achilleas Achilleos
Alessio Bechini
Junyoung Heo
Chih-Cheng Hung
Seiji Isotani
Georgia Kapitsaki
John Kim
Christos Mettouris
Armin R. Mikler
George A. Papadopoulus
Hossain Shahriar
Dongwan Shin



Hosted by
University of Cyprus, Cyprus

****** SAC 2019 at Glance ******

Monday 4/8/2019	Tuesday 4/9/2019	Wednesday 4/10/2019	Thursday 4/11/2019	Friday 4/12/2019
Tutorial Sessions (9:00-12:30) **Coffee Break (10:30-11:00)**	**Opening Remarks (9:00-9:25)** **Keynote Session (9:25-10:40)** **Coffee Break (10:40-11:10)** **AM Breakout Sessions (11:10-12:50)**	**AM Breakout Sessions (9:00-10:40)** **Coffee Break (10:40-11:10)** **AM Breakout Sessions (11:10-12:50)** **AM Posters Sessions (10:40-12:50)**	**Keynote Session (9:25-10:40)** **Coffee Break (10:40-11:10)** **AM Breakout Sessions (11:10-12:50)**	**AM Breakout Sessions (9:00-10:40)** **Coffee Break (10:40-11:10)** **AM Breakout Sessions (11:10-12:25)**
SAC Luncheon for all (tutorial) Registered Attendees (12:30-14:30) (Location: Conference venue)	**SAC Luncheon for all Registered Attendees (12:50-14:20) (Location: Conference venue)**	**SAC Luncheon for all Registered Attendees (12:50-14:20) (Location: Conference venue)**	**SAC Luncheon for all Registered Attendees (12:50-14:20) (Location: Conference venue)**	**SAC Luncheon for all Registered Attendees (12:50-14:20) (Location: Conference venue)**
Tutorial Sessions (14:30-18:00) **Coffee Break (16:00-16:30)**	**PM Breakout Sessions (14:20-16:00)** **SRC Posters Exhibit (14:30-18:00)** **Coffee Break (16:00-16:30)** **PM Breakout Sessions (16:30-18:35)**	**PM Breakout Sessions (14:20-16:00)** **PM Posters Sessions (16:00-18:10)** **Coffee Break (16:00-16:30)** **PM Breakout Sessions (16:30-18:35)**	**PM Breakout Sessions (14:20-16:00)** **SRC Oral Presentations (14:30-16:30)** **Coffee Break (16:00-16:30)** **PM Breakout Sessions (16:30-18:10)**	**PM Breakout Sessions (14:20-16:25)**
	SIGAPP Annual Business Meeting (18:40-19:30) (Atrium B Room) **SIGAPP Reception (19:30-21:00) (Location: Panorama Room)**	**Future SAC Organization Meeting (18:40-19:30) (Location: Atrium B Room)**	**Track Chairs Business Meeting (*working lunch*) (13:10-14:00) (Conference venue)** **SAC Banquet (18:30-23:30)**	

**** SAC 2019 Session Schedule ****

Monday April 8, 2019
Tutorial Sessions – Please see more on Tutorials Page

Tuesday April 9, 2019				
Room	**9:00 - 10:40am**	**11:10am - 12:50pm**	**2:20 - 4:00pm**	**4:30 – 6:35pm**
Megaron Alpha	**Opening Remarks (9:00am) Keynote Address (9:25am)** ***Panorama***	SEC-1 (4)	SEC-2 (4)	SEC-3 (2)+UE (2)
Megaron Beta		DAPP-1 (4)	DAPP-2 (4)	PDP (5)
Megaron Gamma		IRMAS-1 (4)	IRMAS-2(3)+KRR1(1)	KRR-2 (5)
Atrium B		BPMEA-1 (4)	BPMEA-2 (3)	SP (3)
Atrium A		DM-1 (4)	DM-2 (2)+DLHWB(2)	DBDM (5)
Panorama			**SRC Poster Presentations (2:30pm – 6:00pm)**	
SIGAPP Business Meeting (6:40pm – 7:30pm) at Atrium B				
SIGAPP Welcome Reception (7:30pm - 9:00pm) at Panorama				

Wednesday April 10, 2019				
Room	**9:00 - 10:40am**	**11:10am - 12:50pm**	**2:20 - 4:00pm**	**4:30 – 6:35pm**
Megaron Alpha	IoT-1 (4)	IoT-2 (3)	CPS (4)	EMBS (5)
Megaron Beta	DADS-1 (4)	DADS-2 (4)	NET (4)	MCA (5)
Megaron Gamma	KLP-1 (4)	KLP-2 (4)	KLP-3 (2)	KomIS (5)
Atrium B	SVT-1 (4)	SVT-2 (4)	SE-1 (4)	SE-2 (4)
Atrium A	SONAMA-1 (4)	SONAMA-2 (4)	GIA (4)	IAR (5)
Panorama	**AM Posters Display Session (10:40am – 12:50pm)**		**PM Posters Display Session (4:00pm – 6:10pm)**	
Future SAC Organization Meeting (6:40pm – 7:30pm) at Atrium B				

Thursday April 11, 2019				
Room	**9:25 - 10:40am**	**11:10am - 12:50pm**	**2:20 - 4:00pm**	**4:30 – 6:10pm**
Megaron Alpha	**Keynote Address (9:25am)** ***Panorama***	OS-1 (4)	OS-2 (3) + WT-1 (1)	WT-2 (4)
Megaron Beta		WCN-1 (4)	WCN-2 (3) + NGPS (1)	CCNIV (3)
Megaron Gamma		MLA-1 (4)	MLA-2 (4)	MLA-3 (3)

Atrium B		SE-3 (4)	SE-4 (2) + RE-1 (2)	RE-2 (3)
Atrium A		SWA-1 (4)	SWA-2 (4)	SiSoS (2)
Panorama			**SRC Oral Presentations (2:30pm – 4:30pm)**	
Track Chair Meeting (working lunch, 1:10pm – 2:00pm)				
SAC Banquet Dinner including City Tour (6:30pm – 11:00pm)				

Friday April 12, 2019				
Room	**9:00 - 10:40am**	**11:10am - 12:50pm**	**2:20 - 4:25pm**	
Megaron Alpha	PL-1 (4)	PL-2 (2) + CC-1(1)	CC-2 (5)	
Megaron Beta	HCI (4)	WICE (4)	HI (5)	
Megaron Gamma	SFECS (4)	MiDOS (4)	SATTA (5)	
Atrium B	BIO (4)	VSPLE (3)	RS (5)	
Atrium A	DS (4)	CIVIA (3) + COMBI(1)		

SAC 2019

Introduction

SAC 2019 is a premier international conference on applied computing and technology. Attendees have the opportunity to hear from expert practitioners and researchers about the latest trends in research and development in their fields. SAC 2019 features two keynote speakers on Tuesday and Thursday, from 9:25 to 10:40, respectively. The technical program of the symposium consists of tutorial sessions, regular research paper sessions, poster sessions, and Microsoft-sponsored student research competition (SRC) sessions. Four tutorials are offered on Monday 8th, 2019, and 258 research papers in 46 tracks with different research topics are presented from Tuesday April 9th through Friday April 12th, 2019. The sessions for regular research papers start at 9:00 and end at 18:35 (except for Friday when they end at 16:25). Two poster tracks also run on Wednesday April 10th, from 10:40 to 12:50 and from 16:00 to 18:10. Finally, SRC posters display session runs on Tuesday from 14:30 to 18:00 and SRC Presentations session runs on Thursday from 14:30 to 16:30.

ACM SIGAPP

The ACM Special Interest Group on Applied Computing is ACM's primary applications-oriented SIG. Its mission is to further the interests of the computing professionals engaged in the development of new computing applications and applications areas and the transfer of computing technology to new problem domains. SIGAPP offers practitioners and researchers the opportunity to share mutual interests in innovative application fields, technology transfer, experimental computing, strategic research, and the management of computing. SIGAPP also promotes widespread cooperation among business, government, and academic computing activities. Its annual Symposium on Applied Computing (SAC) provides an international forum for presentation of the results of strategic research and experimentation for this inter-disciplinary environment. SIGAPP membership fees are: $15.00 for ACM Non-members, $15.00 for ACM Professional Members, and $8.00 for ACM Student Members. For further information on SIGAPP, please contact Jiman Hong at jiman@ssu.ac.kr or visit the SIGAPP website at http://www.acm.org/sigapp.

Support

The SRC Program of SAC 2019 is sponsored by Microsoft Research.

Microsoft Research

Symposium Chair Message

Chih Cheng Hung
Kennesaw State University, Kennesaw, GA, USA

George Algelo Papadopoulus
University of Cyprus, Nicosia, Cyprus

On behalf of the Organizing Committee, we welcome you to the 34th Annual ACM Symposium on Applied Computing (SAC 2019), hosted by the University of Cyprus. This international forum has been dedicated to computer scientists, engineers and practitioners for the purpose of presenting their research findings and results in various areas of applied computing. The organizing committee is grateful for your participation in this exciting international event. We hope that this conference proves interesting and beneficial for all of you.

The Symposium is sponsored by the ACM Special Interest Group on Applied Computing (SIGAPP), whose mission is to further the interests of computing professionals engaged in the design and development of new computing applications, interdisciplinary applications areas, and applied research. This conference is dedicated to the study of applied computing research of real-world problems. In addition, this event provides an avenue to discuss and exchange new ideas in the wide spectrum of applied computing areas. We all recognize the importance of updating the latest developments and research in our current areas of expertise.

SAC 2019 offers Technical Tracks and Poster Sessions. The success of the conference can be attributed to the substantial contribution of dedicated Track Chairs and Co-Chairs. Each track maintains a program committee and a set of highly qualified

reviewers. We wish to thank the Track Chairs, Co-Chairs, Committee Members and participating reviewers for their hard work and effort to make the SAC 2019 conference a high quality conference. We also thank our invited keynote speakers, Professor Jocelyn Chanussot from the Grenoble Institute of Technology (Grenoble INP), Grenoble, France, and Yiorgos (George) Chrysanthou from the University of Cyprus, Cyprus, for sharing their knowledge and expertise with SAC 2019 attendees. Most of all, I would like to especially thank the authors and presenters for sharing their experience with the rest of us and to all attendees for joining us in Limassol, Cyprus this year.

The local organizing committee has been a major contributor to the success of the SAC 2019 conference. Our gratitude goes to the local arrangement team, led by George A. Papadopoulos (Conference Co-Chair), including Georgia Kapitsaki (Tutorial Chair), Christos Mettouris (Local Arrangement Chair), and Achilleas Achilleos (Posters Co-Chair) from the University of Cyprus, Cyprus. We also extend our thanks to the Publication Chair, Hossain Shahriar, Kennesaw State University, USA, for his tremendous effort in putting together the conference proceedings, and Posters Co-Chair, Alessio Bechini, University of Pisa, Pisa, Italy, for his hard work to make a successful Poster Program. Our thanks also go to SRC Chair Armin R. Mikler, Publicity Chair Junyoung Heo, and Treasurer John Kim. A special thanks to our Program Chairs, Dongwan Shin, New Mexico Tech, Socorro, New Mexico, USA, and Seiji Isotani, University of São Paulo, São Paulo, Brazil, for coordinating and bringing together an excellent Technical Program. It is highly appreciated for the financial support of the ACM SIGAPP Chair, Jiman Hong, for our Student Travel Award Program (STAP).

It has been a great pleasure to working with all of you and learning so much from each of you. Again, we welcome you to SAC 2019 in the beautiful city of Limassol, Cyprus. We hope you enjoy the SAC 2019 conference and your stay in Cyprus.

Program Chairs Message

Dongwan Shin
New Mexico Tech, New Mexico, USA

Seiji Isotani
University of São Paulo, São Paulo, Brazil

Welcome to the 34th International Symposium on Applied Computing (SAC 2019). For the past 33 years, SAC has become a major international venue for computing researchers and applied practitioners to convene and share ideas on recent developments in a variety of applied areas of computer science and information technology. The success of SAC has been the consolidation of a wide range of applied areas into specialized modules called *Tracks*. Each of the Tracks is then organized and administered by experts in the respective areas by instituting program committees, carrying out blind reviews according to the ACM guidelines, and finally selecting highly qualified papers for the Track. Since its inception sixteen years ago, the Poster Sessions at SAC have become a tradition, and this year again the Poster will be an integral part of the Technical Program at SAC 2019.

The open Call for Track Proposals and after prescreening the proposals, 46 Tracks were finally accepted for SAC 2019. The prescreening and selections were made based on the success of those Tracks in the previous SACs as well as targeting new and emerging areas. The Call for Papers for these Tracks attracted 1067 final paper submissions from over 50 different countries. The submitted papers underwent the blind review process and 258 submissions were finally accepted as full papers for inclusion in the Conference Proceedings and presentation during the Symposium. The final acceptance rate for SAC 2019 is (24.2%) for the overall track. In addition to the accepted full papers, 78 submissions that received high enough review scores were accepted as poster papers for the Posters program. The Student Research Competition (SRC) program, sponsored by Microsoft Research, is designed to provide graduate students the opportunity to meet and exchange ideas with researchers and practitioners in their areas of interest. 57 SRC abstract submissions received and finally 16 (28%) submissions were accepted.

The Technical Program of SAC 2019 is made possible through the hard work of many people from the scientific community who have volunteered and committed many hours to make it a success. Much credit goes to all Track Chairs for making SAC 2019 Technical Sessions a huge success. Some of the popular Tracks had an unprecedented submissions and having at least three blind reviews for each paper was certainly a major challenge. Once again this year, we follow the previous years' tradition in organizing various tracks into five different themes. The Symposium Proceedings and the technical presentations are focused around these themes to form a series of related track sessions. On behalf of the entire SAC 2019 Organizing Committee, we congratulate all the authors for having their papers accepted in their respective Tracks, and we wish to thank all of those who made this year's technical program a great success. Specifically, we wish to thank

the speakers, posters chair, SRC chair, track chairs, reviewers, technical program committee members, session chairs, presenters, and all the attendees. We also wish to convey our special thanks to the local organizing committee. We wish you all a pleasant stay in Limassol, Cyprus, and have the opportunity to share and exchange your ideas and foster new collaborations. We also hope to see you at SAC 2020.

SAC 2019 Themes

This year SAC tracks are divided into five themes: tracks with relevant topics are grouped into a theme, and a single room is assigned for one theme for oral presentantion. Hence related tracks will take place sequentially in the same room in most cases, so as to promote sharing and cross-fertilization of ideas for the whole audience of a theme. Check the program schedule for details. The five themes of SAC 2019 are listed below:

(AIA) AI and Agents: Tracks: BIO, CIVIA, COMBI, HCI, IRMAS, KLP, KomIS, KRR, MLA
(DS) Distributed Systems: Tracks: CC, CCNIV, DADS, MCA, MiDOS, NET, WCN, WT
(IS) Information Systems: Tracks: DBDM, DLHWB, DM, DS, GIA, HI, IAR, SFECS, SONAMA, SWA, WICE
(SD) Software Design and Development: Tracks: BPMEA, RE, SATTA, SE, SVT, UE, VSPLE
(SSS) System Software and Security: Tracks: CPS, EMBS, IoT, NGPS, OS, PDP, PL, RS, SEC, SiSoS, SP

Keynote Speakers

Tuesday April 9, 2019 9:25 - 10:40

Dr. Jocelyn Chanussot
GIPSA-Lab
Grenoble Institute of Technology
France

Title: Deep Learning for the Processing of Hyperspectral Data: Over a Decade of History

Abstract

Over the past decade, deep learning techniques have been increasingly considered for the processing and analysis of hyperspectral data. A variety of tasks have been addressed, ranging from denoising, dimension reduction and feature extraction, to spectral unmixing, classification or data fusion. In 2008, the data fusion contest organized by the IEEE Geoscience and Remote Sensing Society served as an early warning milestone: the contest involved the classification of hyperspectral data. Among over 2000 entries to the contest, 9 out of the 10 best performing teams were using SVM and some sort of spectral spatial feature extraction or regularization. But the very best results were actually already achieved by a neural approach. In the following years and even more recently, deep learning techniques systematically dominate all the rankings. In this overview, special attention will be given to autoencoders and convolutional neural networks as well as their recent evolutions. In addition, the current challenges and future directions in the research of hyperspectral data processing will be provided.

Speaker's Bio

Jocelyn Chanussot received the M.Sc. degree in electrical engineering from the Grenoble Institute of Technology (Grenoble INP), Grenoble, France, in 1995, and the Ph.D. degree from the Université de Savoie, Annecy, France, in 1998. In 1999, he was with the Geography Imagery Perception Laboratory for the Delegation Generale de l'Armement (DGA - French National Defense Department). Since 1999, he has been with Grenoble INP, where he is currently a Professor of signal and image processing. He is conducting his research at the Grenoble Images Speech Signals and Automatics Laboratory (GIPSA-Lab). His research interests include image analysis, multicomponent image processing, nonlinear filtering, and data fusion in remote sensing. He has been a visiting scholar at Stanford University (USA), KTH (Sweden) and NUS (Singapore). Since 2013, he is an Adjunct Professor of the University of Iceland. In 2015-2017, he was a visiting professor at the University of California, Los Angeles (UCLA). Dr. Chanussot is the founding President of IEEE Geoscience and Remote Sensing French chapter (2007-2010) which received the 2010 IEEE GRS-S Chapter Excellence Award. He was the co-recipient of the NORSIG 2006 Best Student Paper Award, the IEEE GRSS 2011 and 2015 Symposium Best Paper Award, the IEEE GRSS 2012 Transactions Prize Paper Award and the IEEE GRSS 2013 Highest Impact Paper Award. He was a member of the IEEE Geoscience and Remote Sensing Society AdCom (2009- 2010), in charge of membership development. He was the General Chair of the first IEEE GRSS Workshop on Hyperspectral Image and Signal Processing, Evolution in Remote sensing (WHISPERS). He was the Chair (2009-2011) and Cochair of the GRS Data Fusion Technical Committee (2005-2008). He was a member of the Machine Learning for Signal Processing Technical

Committee of the IEEE Signal Processing Society (2006-2008) and the Program Chair of the IEEE International Workshop on Machine Learning for Signal Processing, (2009). He was an Associate Editor for the IEEE Geoscience and Remote Sensing Letters (2005-2007) and for Pattern Recognition (2006-2008). Since 2007, he is an Associate Editor for the IEEE Transactions on Geoscience and Remote Sensing. He was the Editor-in-Chief of the IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (2011-2015). In 2013, he was a Guest Editor for the Proceedings of the IEEE and in 2014 a Guest Editor for the IEEE Signal Processing Magazine. He is a Fellow of the IEEE, a member of the Institut Universitaire de France (2012- 2017) and a 2018 Highly Cited Researcher (Clarivate Analytics).

Tuesday April 11, 2019 9:25 - 10:40

Dr. Yiorgos L. Chrysanthou
Computer Science Department
University of Cyprus
Cyprus

Title: Data driven Character Simulation

Abstract

Virtual environments are increasingly present in our lives, with a large number of potential applications. An indispensable component of many of these applications are virtual humans. From training for evacuation through to background scenes for a historical drama, virtual characters provide important context and constraints to the user; they can significantly improve the plausibility of the environment leading to a more realistic response, and ultimately, better understanding of the situation or better entertainment. Increasing processing power due to multicore architectures, improved clock speeds and highly programmable Graphics Processing Units (GPUs), enable designers and programmers to add multitudes of virtual characters in real-time applications. As the real-time rendering of the characters is becoming more and more realistic, there is a considerable gap between the rendering appearance and their simulated behavior. In this presentation we will look at some recent work on data-driven character simulation and animation covering both the simulation of virtual crowds and ambient life as well as the stylistic animation of individual characters.

Speaker's Bio

Yiorgos L. Chrysanthou is a Professor at the Computer Science Department of the University of Cyprus where he is heading the Graphics and Hypermedia lab. He is also the Research Director of the newly established Centre of Excellence on Interactive Media, Smart Systems and emerging Technologies (RISE). Yiorgos was educated in the UK (Queen Mary College, University of London) and worked for several years as a research fellow and a lecturer at University College London. He has published over 80 papers in journals and international conferences and served as the local or overall coordinator of over 27 research projects, related to 3D graphics, virtual reality and applications. His research interests lie in the general area of 3D Computer Graphics, recently focusing more on computer animation, algorithms for real-time AR and VR rendering and reconstruction of urban environments.

Other Activities

SIGAPP Annual Business Meeting: Tuesday April 9, from 18:40 to 19:30 (Location: Atrium B Room). Open to everyone.

SIGAPP Reception: Tuesday April 9, from 19:30 to 21:00 (Location: Panorama Room). Open to everyone.

Future SAC Organization Meeting: Wednesday April 10, from 18:40 to 19:30 (Location: Atrium B Room). Open to everyone.

Track Chairs Business Meeting (working lunch): Thursday April 11, from 13:10 to 14:00 (Location: Conference venue). Open for the Organizing Committee and (potential) Track Chairs.

SAC Banquet: Thursday April 11, from 18:30 to 23:00 (Buses will leave around 18:30 for City Tour). Open for Banquet Ticket holders. See your tickets for full details.

SAC Best Papers/Best Posters Award: Thursday April 11. During the SAC Banquet Program Chairs and Posters Chair will award one best paper for each of the five themes and best posters of this conference.

SRC Program: The Student Research Competition program includes Poster Display on Tuesday at 14:30 and Oral Presentations on Thursday (Location: Panorama Room). Medals and certificates will be given to the top three winners during the SAC Banquet.

Monday April 8, 2019

Mon 9:00–10:30
Rooms: Megaron Alpha, Megaron Beta

Tutorials
See tutorial pages for more details

Mon 10:30 – 11:00

Coffee Break

Mon 11:00–12:30
Rooms: Megaron Alpha, Megaron Beta

Tutorials, continued

Mon 12:30 – 14:30

Lunch Break
(Conference Venue)

Mon 14:30–16:00
Rooms: Megaron Alpha, Megaron Beta

Tutorials
See tutorial pages for more details

Mon 16:00 – 16:30

Coffee Break

Mon 16:30–18:00
Rooms: Megaron Alpha, Megaron Beta

Tutorials, continued

Tuesday April 9, 2019

TUE 9:25–10:40
Room: Panorama

Keynote Address
Dr. Jocelyn Chanussot
See page 5 for details.

TUE 10:40 – 11:10

Coffee Break

TUE 11:10 – 12:50
Room: Megaron Alpha

(SEC-1) Computer Security
Session Chair: Rosario Giustolisi, IT University of Copenhagen, Denmark

COAUTHENTICATION
Jay Ligatti, Cagri Cetin, Shamaria Engram, Jean-Baptiste Subils and Dmitry Goldgof

ENABLING CHANGE-DRIVEN WORKFLOWS IN CONTINUOUS INFORMATION SECURITY MANAGEMENT
Michael Brunner, Andrea Mussmann and Ruth Breu

A REAL-TIME REMOTE IDS TESTBED FOR CONNECTED VEHICLES
Valentin Zieglmeier, Severin Kacianka, Thomas Hutzelmann and Alexander Pretschner

THE ROP NEEDLE: HIDING TRIGGER-BASED INJECTION VECTORS VIA CODE REUSE
Pietro Borrello, Emilio Coppa, Daniele Cono D'Elia and Camil Demetrescu

TUE 11:10 – 12:50
Room: Megaron Beta

(DAPP-1) Decentralized Applications with Blockchain
Session Chair: Jean-Marc Seigneur, University of Geneva, Switzerland

SMART CONTRACTS IN VIEW OF THE CIVIL CODE
Monika di Angelo, Alfred Soare and Gernot Salzer

DECOUPLES: A DECENTRALIZED, UNLINKABLE AND PRIVACY-PRESERVING TRACEABILITY SYSTEM FOR THE SUPPLY CHAIN
Mourad El Maouchi, Oguzhan Ersoy and Zekeriya Erkin

BUILDING PRIVATE BLOCKCHAINS OVER PUBLIC BLOCKCHAINS (POP): AN ATTRIBUTE-BASED ACCESS CONTROL APPROACH
Dijiang Huang, Chun-Jen Chung, Qiuxiang Dong, Jim Luo and Myong Kang

HYBRID MINING: EXPLOITING BLOCKCHAIN'S COMPUTATIONAL POWER FOR DISTRIBUTED PROBLEM SOLVING
Krishnendu Chatterjee, Amir Kafshdar Goharshady and Arash Pourdamghani

TUE 11:10 – 12:50
Room: Megaron Gamma

(IRMAS-1) Intelligent Robotics and Multi-Agent Systems

Session Chair: Rui P. Rocha, University of Coimbra, Portugal

CORRELATION CLUSTERING BASED COALITION FORMATION FOR MULTI-ROBOT TASK ALLOCATION
Ayan Dutta, Vladimir Ufimtsev and Asai Asaithambi

DISTRIBUTED ADAPTIVE-NEIGHBORHOOD CONTROL FOR STOCHASTIC REACHABILITY IN MULTI-AGENT SYSTEMS
Anna Lukina, Ashish Tiwari, Scott A. Smolka and Radu Grosu

HIERARCHICAL MULTI-AGENT DEEP REINFORCEMENT LEARNING TO DEVELOP LONG-TERM COORDINATION
Marie Ossenkopf, Kurt Geihs and Mackenzie Jorgensen

TRAIL FORMATION USING LARGE SWARMS OF MINIMAL ROBOTS
Pere Molins and Sabine Hauert

TUE 11:10 – 12:50
Room: Atrium B

(BPMEA-1) Business Process Management and Enterprise Architecture

Session Chair: TBA

A HYBRID RELIABILITY METRIC FOR SLA PREDICTIVE MONITORING
Marco Comuzzi, Alfonso E. Marquez-Chamorro and Manuel Resinas

CONTROLLABILITY OF BUSINESS PROCESSES WITH TEMPORAL VARIABLES
Johann Eder, Marco Franceschetti and Julius Köpke

OBJECT-CENTRIC BEHAVIORAL CONSTRAINT MODELS: A HYBRID MODEL FOR BEHAVIORAL AND DATA PERSPECTIVES
Guangming Li, Renata Medeiros de Carvalho and Wil M.P. van der Aalst

OPTIMIZING CUSTOMER JOURNEY USING PROCESS MINING AND SEQUENCE-AWARE RECOMMENDATION
Alessandro Terragni and Marwan Hassani

TUE 11:10 – 12:50
Room: Atrium A

(DM-1) Data Mining

Session Chair: Elena Baralis, Politecnico di Torino, Italy

AN ANOMALY DETECTION TECHNIQUE FOR BUSINESS PROCESSES BASED ON EXTENDED DYNAMIC BAYESIAN NETWORKS
Stephen Pauwels and Toon Calders

DIRICHLET PROCESS MIXTURE MODELS MADE SCALABLE AND EFFECTIVE BY MEANS OF MASSIVE DISTRIBUTION
Khadidja Meguelati, Bénédicte Fontez, Nadine Hilgert and Florent Masseglia

PAIRWISE NORMALIZATION IN SIMRANK VARIANTS: PROBLEM, SOLUTION, AND EVALUATION
Masoud Reyhani Hamedani and Sang-Wook Kim

GRAPH-BASED SELECTIVE OUTLIER ENSEMBLES

Hamed Sarvari, Carlotta Domeniconi and Giovanni Stilo

TUE 12:50 – 14:20

Lunch Break

(Conference venue)

TUE 14:30 – 18:00

SRC Posters Exhibition

PARORAMA

See page 30 for details.

TUE 14:20 – 16:00
Room: Megaron Alpha

(SEC-2) Computer Security

Session Chair: Rosario Giustolisi, IT University of Copenhagen, Denmark

A COARSE-GRAINED PASSWORD MODEL WITH MEMORABLE UNIT-BASED RECURRENT NEURAL NETWORKS
Rui Xu, Xiaojun Chen and Jinqiao Shi

SPECTRE WITHOUT SHARED MEMORY
Ben Amos, Niv Gilboa, Arbel Levy and Gabriel Scalosub

DETECTION OF ALGORITHMICALLY GENERATED DOMAIN NAMES USED BY BOTNETS: A DUAL ARMS RACE
Jan Spooren, Davy Preuveneers, Lieven Desmet and Wouter Joosen

STATIC SECURITY EVALUATION OF AN INDUSTRIAL WEB APPLICATION
Gebrehiwet Biyane Welearegai, Max Schlueter and Christian Hammer

TUE 14:20 – 16:00
Room: Megaron Beta

(DAPP-2) Distributed Applications with Blockchain

Session Chair: Jean-Marc Seigneur, University of Geneva, Switzerland

TICKETH, A TICKETING SYSTEM BUILT ON ETHEREUM
Pietro Corsi, Giovanni Lagorio and Marina Ribaudo

THE TREEWIDTH OF SMART CONTRACTS
Krishnendu Chatterjee, Amir Kafshdar Goharshady and Ehsan Kafshdar Goharshady

ANALYSIS OF ARCHITECTURAL VARIANTS FOR AUDITABLE BLOCKCHAIN-BASED PRIVATE DATA SHARING
Vincent Reniers, Dimitri Van Landuyt, Paolo Viviani, Riccardo Lombardi, Bert Lagaisse and Wouter Joosen

MUSCLE: AUTHENTICATED EXTERNAL DATA RETRIEVAL FROM MULTIPLE SOURCES FOR SMART CONTRACTS
Bjorn Van Der Laan, Oguzhan Ersoy and Zekeriya Erkin

TUE 14:20 – 16:00
Room: Megaron Gamma

(IRMAS-2) Intelligent Robotics and Multi-Agent Systems

Session Chair: Rui P. Rocha, University of Coimbra, Portugal

(KRR-1) Knowledge Representation and Reasoning

Session Chair: Francesco Santini, University of Perugia, Italy

COMMUNICATION-BASED COOPERATIVE TASKS: HOW THE LANGUAGE EXPRESSIVENESS AFFECTS REINFORCEMENT LEARNING
Jacopo Talamini, Eric Medvet and Alberto Bartoli

SUPPORT VECTOR REGRESSION BASED SENSOR LOCALIZATION USING UAV
Rolif Lima, Kaushik Das and Debasish Ghose

SUBSPACE CLUSTERING FOR SITUATION ASSESSMENT IN AQUATIC DRONES
Alberto Castellini, Francesco Masillo, Manuele Bicego, Domenico Daniele Bloisi, Jason Blum, Alessandro Farinelli and Sergio Peigner

INFERENTIAL EQUIVALENCE, NORMAL FORMS, AND ISOMORPHISMS OF KNOWLEDGE BASES IN INSTITUTIONS OF CONDITIONAL LOGICS
Christoph Beierle

TUE 14:20 – 16:00
Room: Atrium B

(BPMEA-2) Business Process Management & Enterprise Architecture

Session Chair: TBA

STATIC ANALYSIS OF BPMN-BASED PROCESS-DRIVEN APPLICATIONS
Konrad Schneid, Sebastian Thöne, Herbert Kuchen, Claus A. Usener and Christian Tophinke

TOWARDS A METAMODEL FOR SUPPORTING DECISIONS IN KNOWLEDGE-INTENSIVE PROCESSES
Sheila Katherine Venero, Julio Cesar Dos Reis, Leonardo Montecchi and Cecilia Mary Rubira

VIEW: AN INCREMENTAL APPROACH TO VERIFY EVOLVING WORKFLOWS
Mohammad Javad Amiri and Divyakant Agrawal

TUE 14:20 – 16:00
Room: Atrium A

(DM-2) Data Mining

Session Chair: Giovanni Stilo, Sapienza Universita di Roma, Italy

(DLHWB) Digital Life for Human Well-being

Session Chair: Giorgia Ramponi, Politecnico di Milano, Italy

EXPLAINING BLACK BOX MODELS BY MEANS OF LOCAL RULES
Eliana Pastor and Elena Baralis

HIGH-PERFORMANCE PROBABILISTIC RECORD LINKAGE VIA MULTI-DIMENSIONAL HOMOMORPHISMS
Ari Rasch, Richard Schulze, Waldemar Gorus, Jan Hiller, Sebastian Bartholomäus and Sergei Gorlatch

ANATOME: ANATOMY TEACHING AND LEARNING DESIGNED FOR ALL
Márcia Ferreira, Laura García, André Guedes, Djanira Veronez, Celia Sandrini and Carlos Araujo

WEB-BASED AUTHORING OF MULTIMEDIA INTERVENTION PROGRAMS FOR MOBILE DEVICES: A CASE STUDY ON ELDERLY DIGITAL LITERACY
Bruna Carolina Rodrigues da Cunha, Kamila Rios da Hora Rodrigues, Isabela Zaine, Leonardo Fernandes Scalco, Caio Cesar Viel and maria pimentel

TUE 16:00 – 16:30
Coffee Break

TUE 16:30 – 18:35
Room: Megaron Alpha

(SEC-3) Computer Security

Session Chair: Rosario Giustolisi, IT University of Copenhagen, Denmark

(UE) Usability Engineering

Session Chair: Eduardo Mosqueira-Rey, University of A Coruna, Spain

SECURE MULTI-EXECUTION IN ANDROID
Dhiman Chakraborty, Christian Hammer and Sven Bugiel

TOWARDS AUTOMATED NETWORK MITIGATION ANALYSIS
Michael Backes, Joerg Hoffmann, Robert Künnemann, Patrick Speicher and Marcel Steinmetz

COGNITIVE WORKLOAD OF IN-CAR AUDITORY-VOCAL INTERFACES ON VISUOSPATIAL SKETCHPAD BASED ON A DUAL TASK OF VISUAL PATTERN TEST
Takahiro Miura, Ken-ichiro Yabu, Youji Shimizu, Kenichi Tanaka, Masamitsu Furukawa, Seiko Michiyoshi, Tetsuya Yamamoto, Kazutaka Ueda and Tohru Ifukube

USABILITY PROBLEMS DISCOVERY BASED ON THE AUTOMATIC DETECTION OF USABILITY SMELLS
Rafael Ribeiro, Matheus Souza, Pedro Oliveira and Pedro Neto

TUE 16:30 – 18:35
Room: Megaron Beta

(PDP) Privacy by Deisgn in Practice

Session Chair: Ronald Petrlic, Commissioner for Data Protection Baden-Wurttemberg, Germany

ENGINEERING PRIVACY BY DESIGN - LESSONS FROM THE DESIGN AND IMPLEMENTATION OF AN IDENTITY WALLET PLATFORM
Fatbardh Veseli, Kai Rannenberg and Jetzabel Serna-Olvera

PRIVACY-ENHANCED SYSTEM DESIGN MODELING BASED ON PRIVACY FEATURES
Amir Shayan Ahmadian, Daniel Strüber and Jan Jürjens

RECOMMENDER-BASED PRIVACY REQUIREMENTS ELICITATION - EPICUREAN: AN APPROACH TO SIMPLIFY PRIVACY SETTINGS IN IOT APPLICATIONS WITH RESPECT TO THE GDPR
Christoph Stach and Frank Steimle

MIND YOUR WALLET'S PRIVACY: IDENTIFYING BITCOIN WALLET APPS AND USER'S ACTIONS THROUGH NETWORK TRAFFIC ANALYSIS
Fabio Aiolli, Mauro Conti, Ankit Gangwal and Mirko Polato

DYNAMIC ATTRIBUTE-BASED PRIVACY-PRESERVING GENOMIC SUSCEPTIBILITY TESTING
Mina Namazi, Cihan Eryonucu, Erman Ayday and Fernando Perez-Gonzalez

TUE 16:30 – 18:35
Room: Megaron Gamma

(KRR-2) Knowledge Representation and Reasoning
Session Chair: Francesco Santini, University of Perugia, Italy

INTERPRETATIONS AND MODELS FOR ASSUMPTION-BASED ARGUMENTATION
Samy Sá and João Alcântara

ON SCALING THE ENUMERATION OF THE PREFERRED EXTENSIONS OF ABSTRACT ARGUMENTATION FRAMEWORKS
Gianvincenzo Alfano, Sergio Greco and Francesco Parisi

REPRESENTING AND COMPARING LARGE SETS OF EXTENSIONS OF ABSTRACT ARGUMENTATION FRAMEWORKS
Odinaldo Rodrigues

CONFLICT HISTORY BASED SEARCH FOR CONSTRAINT SATISFACTION PROBLEM
Djamal Habet and Cyril Terrioux

EXPRESSIVE CARDINALITY CONSTRAINTS ON ALCSCC CONCEPTS
Franz Baader

TUE 16:30 – 18:35
Room: Atrium B

(SP) Software Platforms
Session Chair: Manhee Lee, Hannam University, Seoul, Korea

ANALYSIS OF APPLICATION INSTALLATION LOGS ON ANDROID SYSTEMS
Jinwoo Lee, Yena Lee and Jiman Hong

DESIGN AND IMPLEMENTATION OF EMULAB-BASED MALWARE ANALYSIS SERVICE THROUGH EMULIB
Gibeom Song and Manhee Lee

ENERGY EFFICIENT IO STACK DESIGN FOR WEARABLE DEVICE
Junghoon Kim, Sundoo Kim, Juseong Yun and Youjip Won

TUE 16:30 – 18:35
Room: Atrium A

(DBDM) Databases and Big Data Management
Session Chair: Ramzi A. Haraty, Lebanese American University, Lebanon

A NOISE TOLERANT AND SCHEMA-AGNOSTIC BLOCKING TECHNIQUE FOR ENTITY RESOLUTION
Tiago Brasileiro Araújo, Carlos Eduardo Santos Pires, Demetrio Mestre, Thiago Nóbrega, Dimas Cassimiro do Nascimento Filho and Kostas Stefanidis

AUTHORIZATION-AWARE OPTIMIZATION FOR MULTI-PROVIDER QUERIES
Ekaterina Dimitrova, Panos Chrysanthis and Adam Lee

EFFICIENT SPATIO-TEMPORAL RDF QUERY PROCESSING IN LARGE DYNAMIC KNOWLEDGE BASES
Akrivi Vlachou, Christos Doulkeridis, Apostolos Glenis, Georgios Santipantakis and George Vouros

MAPREDUCE ALGORITHMS FOR THE K GROUP NEAREST-NEIGHBOR QUERY
Panagiotis Moutafis, Francisco García-García, George Mavrommatis, Michael Vassilakopoulos, Antonio Corral and Luis Iribarne

TOWARD RDB TO NOSQL: TRANSFORMING DATA WITH METAMORFOSE FRAMEWORK

Evandro Kuszera, Leticia M. Peres and Marcos Didonet Del Fabro

Wednesday April 10, 2019

WED 9:00 – 10:40
Room: Megaron Alpha

(IoT-1) Internet of Things

Session Chair: Clementine Gritti, Norwegian University of Science and Technology, Norway

ICORE: CONTINUOUS AND PROACTIVE EXTROSPECTION ON MULTI-CORE IOT DEVICES
Penghui Zhang, Haehyun Cho, Ziming Zhao, Adam Doupé and Gail-Joon Ahn

CYPRIOT : FRAMEWORK FOR MODELLING AND CONTROLLING NETWORK-BASED IOT APPLICATIONS
Imad Berrouyne, Massimo Tisi, Jean-Marie MOTTU, Mehdi Adda and Jean-Claude Royer

AN ARCHITECTURE AND ITS TOOLS FOR INTEGRATING IOT AND BPMN IN AGRICULTURE SCENARIOS
Jordano Celestrini, Renato Rocha, Estêvão Saleme, Celso Santos, José Gonçalves Pereira Filho and Rodrigo Andreão

ENSEMBLE TREES LEARNING BASED IMPROVED PREDICTIVE MAINTENANCE USING IIOT FOR TURBOFAN ENGINES
Sourajit Behera, Anurag Choubey, Chandresh Shambhubhai kanani, Yashwant Singh Patel, Rajiv Misra and Alberto Sillitti

WED 9:00 – 10:40
Room: Megaron Beta

(DADS-1) Dependable, Adaptive, and Secure Distributed Systems

Session Chair: Karl M. Goeschka, UAS Technikum Vienna, Austria

DON'T HESITATE TO SHARE! A NOVEL IOT DATA PROTECTION SCHEME BASED ON BGN CRYPTOSYSTEM
Subir Halder and Mauro Conti

SECURELY DEPLOYING DISTRIBUTED COMPUTATION SYSTEMS ON PEER-TO-PEER NETWORKS
Kobe Vrancken, Frank Piessens and Raoul Strackx

ADAPTIVE INFORMATION DISSEMINATION IN THE BITCOIN NETWORK
João Marçal, Luís Rodrigues and Miguel Matos

SCALABLE LIGHTNING FACTORIES FOR BITCOIN
Alejandro Ranchal Pedrosa, Maria Potop Butucaru and Sara Tucci

WED 9:00 – 10:40
Room: Megaron Gamma

(KLP-1) Knowledge and Language Processing

Session Chair: Mauro Dragoni, FBK, Italy

A CASE-BASED APPROACH USING PHONOLOGICAL KNOWLEDGE FOR IDENTIFYING ERROR PATTERNS IN CHILDREN'S SPEECH
Maria Helena Franciscatto, João Carlos Damasceno Lima, Celio Trois, Vinícius Maran, Márcia Keske Soares and Cristiano Cortez da Rocha

DETECTING RELIABLE NOVEL WORD SENSES: A NETWORK-CENTRIC APPROACH
Abhik Jana, Animesh Mukherjee and Pawan Goyal

EXPLORING LEXICO-SEMANTIC PATTERNS FOR ASPECT-BASED SENTIMENT ANALYSIS
Frederique Baas, Olivier Bus, Alexander Osinga, Nikki van de Ven, Steffie van Loenhout, Lisanne Vrolijk, Kim Schouten and Flavius Frasincar

FEW-SHOT CLASSIFICATION IN NAMED ENTITY RECOGNITION TASK
Alexander Fritzler, Varvara Logacheva and Maksim Kretov

WED 9:00 – 10:40
Room: Atrium B

(SVT-1) Software Verification and Testing

Session Chair: Nikolai Kosmatov, CEA LIST, France

VERIFICATION-BASED TEST CASE GENERATION FOR INFORMATION-FLOW PROPERTIES

Mihai Herda, Shmuel Tyszberowicz, Joachim Müssig and Bernhard Beckert

DYNAMIC SYMBOLIC EXECUTION FOR THE ANALYSIS OF WEB SERVER APPLICATIONS IN JAVA
Daniel Balasubramanian, Zhenkai Zhang, Dan McDermet and Gabor Karsai

SPECIFICATION OF TEMPORAL PROPERTIES OF FUNCTIONS FOR RUNTIME VERIFICATION
Joshua Dawes and Giles Reger

STUDY OF TRIVIAL COMPILER EQUIVALENCE ON C++ OBJECT-ORIENTED MUTATION OPERATORS
Pedro Delgado-Pérez and Sergio Segura

WED 9:00 – 10:40
Room: Atrium A

(SONAMA-1) Social Network and Media Analysis
Session Chair: Christian Esposito, University of Napoli "Federico II", Italy

A COMPUTATIONALLY EFFICIENT MULTI-MODAL CLASSIFICATION APPROACH OF DISASTER-RELATED TWITTER IMAGES
Yara Rizk, Hadi Jomaa, Mariette Awad and Carlos Castillo

BRAND COMMUNITY ANALYSIS ON SOCIAL NETWORKS USING GRAPH REPRESENTATION LEARNING
Marco Brambilla and Mattia Gasparini

COLLABORATION PROFILES AND THEIR IMPACT ON MUSICAL SUCCESS
Mariana Silva, Laís Rocha and Mirella Moro

COMMUNITY EVOLUTION PREDICTION IN DYNAMIC SOCIAL NETWORKS USING COMMUNITY FEATURES' CHANGE RATES
Narimene Dakiche, Fatima Benbouzid-Si Tayeb, Yahya Slimani and Karima Benatchba

WED 10:40 – 11:10
Coffee Break

WED 11:10 – 12:50
Room: Megaron Alpha

(IoT-2) Internet of Things
Session Chair: TBA

PRIVACY-PRESERVING DELEGABLE AUTHENTICATION IN THE INTERNET OF THINGS
Clémentine Gritti, Melek Önen and Refik Molva

SEPARATE SESSION KEY GENERATION APPROACH FOR NETWORK AND APPLICATION FLOWS IN LORAWAN
Suman Bala, Dominique Barthel and Said Gharout

TOWARD A LIGHTWEIGHT ONTOLOGY FOR PRIVACY PROTECTION IN IOT
Mayke Arruda and Renato Freitas Bulcão-Neto

WED 11:10 – 12:50
Room: Megaron Beta

(DADS-2) Dependable, Adaptive, and Secure Distributed Systems
Session Chair: Karl M. Goeschka, UAS Technikum Vienna, Austria

FAILURE PREDICTION IN THE INTERNET OF THINGS DUE TO MEMORY EXHAUSTION
Rafiuzzaman Mohammad, Julien Gascon-Samson, Karthik Pattabiraman and Sathish Gopalakrishnan

PLANNING WORKFLOW EXECUTIONS WHEN USING SPOT INSTANCES IN THE CLOUD
Richard Gil Martinez, Antonia Lopes and Luís Rodrigues

QUANTITATIVE COMPARISON OF UNSUPERVISED ANOMALY DETECTION ALGORITHMS FOR INTRUSION DETECTION
Filipe Falcao, Tommaso Zoppi, Caio Barbosa, Anderson Santos, Baldoino Fonseca, Andrea Ceccarelli and Andrea Bondavalli

A LIBRARY FOR SERVICES TRANSPARENT REPLICATION
Paola Pereira, Cristina Meinhardt, Fernando Dotti and Odorico Mendizabal

WED 11:10 – 12:50
Room: Megaron Gamma

(KLP-2) Knowledge and Language Processing

Session Chair: Mauro Dragoni, FBK, Italy

OUT-OF-CONTEXT FINE-GRAINED MULTI-WORD ENTITY CLASSIFICATION
Guillaume Jacquet, Jakub Piskorski and Sophie Chesney

POPULATING THE KNOWLEDGE BASE OF A CONVERSATIONAL AGENT: HUMAN VS. MACHINE
Hugo Patinho Rodrigues, Luisa Coheur and Eric Nyberg

SAME BUT DIFFERENT: DISTANT SUPERVISION FOR PREDICTING AND UNDERSTANDING ENTITY LINKING DIFFICULTY
Renato Stoffalette Joao, Pavlos Fafalios and Stefan Dietze

STUDY OF LINGUISTIC FEATURES INCORPORATED IN A LITERARY BOOK RECOMMENDER SYSTEM
Haifa Alharthi and Diana Inkpen

WED 11:10 – 12:50
Room: Atrium B

(SVT-2) Software Verification and Testing

Session Chair: Leonardo Mariani, University of Milano Bicocca, Italy

STATICALLY ANALYZING INFORMATION FLOWS - AN ABSTRACT INTERPRETATION-BASED HYPERANALYSIS FOR NON-INTERFERENCE
Michele Pasqua and Isabella Mastroeni

BOUNDED INVARIANCE CHECKING OF SIMULINK MODELS
Predrag Filipovikj, Guillermo Rodriguez-Navas and Cristina Seceleanu

MATCHING IMPLEMENTATIONS TO SPECIFICATIONS: THE CORNER CASES OF IOCO
Ramon Janssen and Jan Tretmans

LOGIC AGAINST GHOSTS: COMPARISON OF TWO PROOF APPROACHES FOR A LIST MODULE
Allan Blanchard, Nikolai Kosmatov and Frederic Loulergue

WED 11:10 – 12:50
Room: Atrium A

(SONAMA-2) Social Network and Media Analysis

Session Chair: Mariette Awad, American University of Beirut, Lebanon

EVENT DETECTION FOR EXPLORING EMOTIONAL UPHEAVALS OF DEPRESSIVE PEOPLE
PinHua Wu, JiaLing Koh and Arbee L.P. Chen

IDENTIFICATION OF CREDULOUS USERS ON TWITTER
Alessandro Balestrucci, Rocco De Nicola, Omar Inverso and Catia Trubiani

KIDSGUARD: FINE GRAINED APPROACH FOR CHILD UNSAFE VIDEO REPRESENTATION AND DETECTION
Shubham Singh, Rishabh Kaushal, Arun Balaji Buduru and Ponnurangam Kumaraguru

MULTIDIMENSIONAL ANALYSIS OF HOT EVENTS FROM SOCIAL MEDIA SOURCES
Abir Troudi, Salma Jamoussi, Corinne Amel Zayani and Ikram Amous

WED 10:40 – 12:50
Poster Session I

(PANORAMA)

Posters of the following Tracks: ***IRMAS, KomIS, MCA, NET, WCN, WT, BPMEA, RE, SE, UE, VSPLE, CPS, EMBS, OS, PDP, PL, RS, SP***

(*See page 26 for detailed list of Posters*)

WED 12:50 – 14:20

Lunch Break

(Conference venue)

WED 14:20 – 16:00
Room: Megaron Alpha

(CPS) Cyber Physical Systems

Session Chair: Jason Xue, City University of Hong Kong, Hong Kong

ADAPTC: PROGRAMMING ADAPTATION POLICIES FOR WSN APPLICATIONS
Shashank Gaur, Luis Almeida and Eduardo Tovar

ENERGY OPTIMIZATION OF BRANCH-AWARE DATA VARIABLE ALLOCATION ON HYBRID SRAM+NVM SPM FOR CPS
Yixin Li, Jinyu Zhan, Wei Jiang and Jiayu Yu

OPTIMIZING FRAGMENTATION AND SEGMENT CLEANING FOR CPS BASED STORAGE DEVICES
Qi Li, Aosong Deng, Congming Gao, Yu Liang, Liang Shi and Edwin Sha

UNITED SSD BLOCK CLEANING VIA CONSTRAINED VICTIM BLOCK SELECTION
Yajuan Du, Wei Liu, Yu Zhu, Shengwu Xiong and Meng Zhang

WED 14:20 – 16:00
Room: Megaron Beta

(NET) Networking

Session Chair: Ivan Ganchev, University of Limerick, Ireland / University of Plovdiv "Paisii Hilendarski", Bulgaria

DISASTER-RESILIENCE OF COMMUNICATION NETWORKS – EU COST CA15127-RECODIS ACTION
Ivan Ganchev

A HIERARCHICAL ARCHITECTURAL MODEL FOR NETWORK SECURITY EXPLORING SITUATIONAL AWARENESS
Ricardo Almeida, Victor Covalski, Roger Machado, Diórgenes Yuri da Rosa, Adenauer Yamin, Lucas Donato and Ana Pernas

ON SIMPLIFYING CONGESTION WINDOW HANDLING FOR CMT-SCTP
Marcelo Ricardo Leitner and Mauro S. P. Fonseca

ON THE ANALOGY BETWEEN QUANTUM CIRCUIT DESIGN AUTOMATION AND VIRTUAL NETWORK EMBEDDING
Andreas Fischer and Alexandru Paler

REDUCING ENERGY CONSUMPTION IN SDN-BASED DATA CENTER NETWORKS THROUGH FLOW CONSOLIDATION STRATEGIES
Marcelo da Silva Conterato, Tiago Coelho Ferreto, Fábio Diniz Rossi, Wagner dos Santos Marques and Paulo Silas Severo de Souza

WED 14:20 – 16:00
Room: Megaron Gamma

(KLP-3) Knowledge and Language Processing

Session Chair: Mauro Dragoni, FBK, Italy

UNVEILING MIDDLE-LEVEL CONCEPTS THROUGH FREQUENCY TRAJECTORIES AND PEAKS ANALYSIS
Luigi Di Caro and Alice Ruggeri

VOCABULARY-BASED COMMUNITY DETECTION AND CHARACTERIZATION
Giorgia Ramponi, Stefano Ceri, Marco Brambilla, Florian Daniel and Marco Di Giovanni

WED 14:20 – 16:00
Room: Atrium B

(SE-1) Software Engineering

Session Chair: Byungjeong Lee, University of Seoul, South Korea

A NOVEL APPROACH TO AUTOMATIC QUERY REFORMULATION FOR IR-BASED BUG LOCALIZATION
Misoo Kim and Eunseok Lee

USABILITY EVALUATION OF VR PRODUCTS IN INDUSTRY - A SYSTEMATIC LITERATURE REVIEW
Sai Anirudh Karre, Neeraj Mathur and Raghu Reddy

RUNTIME OBSERVABLE AND ADAPTABLE UML STATE MACHINES: MODELS@RUN.TIME APPROACH

Miren Illarramendi, Leire Etxeberria, Xabier Elkorobarrutia and Goiuria Sagardui

NODEMOP: RUNTIME VERIFICATION FOR NODE.JS APPLICATIONS
Filippo Schiavio, Haiyang Sun, Daniele Bonetta, Andrea Rosà and Walter Binder

WED 14:20 – 16:00
Room: Atrium A

(GIA) GeoInformation Analytics
Session Chair: Cyril de Runz, University of Reims, France

FROM SPATIO-TEMPORAL DATA TO CHRONOLOGICAL NETWORKS: AN APPLICATION TO WILDFIRE ANALYSIS
Didier Vega Oliveros, Moshé Cotacallapa, Leonardo N. Ferreira, Marcos Quiles, Zhao Liang, Elbert E. N. Macau and Manoel F. Cardoso

ALGORITHMS FOR MOUNTAIN PEAKS DISCOVERY: A COMPARISON
Rocio Nahime Torres, Federico Milani and Piero Fraternali

A GRAPH BASED APPROACH FOR FUNCTIONAL URBAN AREAS DELINEATION
Noudéhouénou Houssou, Jean-Loup Guillaume and Armelle Prigent

A TRANSFER LEARNING PARADIGM FOR SPATIAL NETWORKS
Chidubem Iddianozie and Gavin McArdle

WED 16:00 – 16:30
Coffee Break

WED 16:00 – 18:10
Poster Session II
(PANOROMA)

Posters of the following Tracks: **KLP, KRR, MLA, CC, CCNIV, DADS, DAPP, MIDOS, DBDM, DM, DS, GIA, HI, SONAMA, SWA, WICE, IoT, SiSoS**

(*See page 28 for detailed list of Posters*)

WED 16:30 – 18:35
Room: Megaron Alpha

(EMBS) Embedded Systems
Session Chair: Yajuan Du, Wuhan University of Technology, China

A NEW SEQUENTIAL-WRITE-CONSTRAINED CACHE MANAGEMENT TO MITIGATE WRITE AMPLIFICATION FOR SMR DRIVES
Shuo-Han Chen, Yong-Ching Lin, Yuan-Hao Chang, Ming-Chang Yang, Tseng-Yi Chen, Hsin-Wen Wei and Wei-Kuan Shih

A TIME-PREDICTABLE BRANCH PREDICTOR
Martin Schoeberl, Benjamin Rouxel and Isabelle Puaut

ENERGY-DEMAND ESTIMATION OF EMBEDDED DEVICES USING DEEP ARTIFICIAL NEURAL NETWORKS
Timo Hönig, Benedict Herzog and Wolfgang Schröder-Preikschat

ON ASSESSING THE VIABILITY OF PROBABILISTIC SCHEDULING WITH DEPENDENT TASKS
Jaume Abella, Enrico Mezzetti and Francisco Cazorla

REFRESH OPTIMISED EMBEDDED-DRAM CACHES BASED ON ZERO DATA DETECTION
Sheel Sindhu Manohar and Hemangee Kapoor

WED 16:30 – 18:35
Room: Megaron Beta

(MCA) Mobile Computing and Applications
Session Chair (TBA): Hong Va Leong, The Hong Kong Polytechnic University, Hong Kong

A SCALABLE AND ACCURATE FEATURE REPRESENTATION METHOD FOR IDENTIFYING MALICIOUS MOBILE APPLICATIONS
Bo Sun, Ban Tao, Shun-Chieh Chang, Yeali S. Sun, Takeshi Takahashi and Daisuke Inoue

MACHINE LEARNING FOR IMPROVING MOBILE USER SATISFACTION
Ismat Yahia CHAIB DRAA, Smail Niar, Fabien Bouquillon and Emmanuelle Grislin

MOCA: A NOVEL PRIVACY-PRESERVING CONTEXTUAL ADVERTISING PLATFORM ON MOBILE DEVICES

Jung-Hyun Lee, Woo-Jong Ryu, Kang-Min Kim and SangKeun Lee

A MULTI-OBJECTIVE INDOOR LOCALIZATION SERVICE FOR SMARTPHONES
Andreas Konstantinidis, Aphrodite Demetriades and Savvas Pericleous

ACOUSESS: SMARTPHONE-BASED LOGGER TO ASSESS ACOUSTICAL CONDITIONS - SUBJECTIVE NOISE CONDITIONS ON SOME CIRCUMFERENCE AND INTRAINDIVIDUAL VARIATION-
Takahiro Miura, Mari Ueda, Masaaki Hiroe and Ken-ichiro Yabu

WED 16:30 – 18:35
Room: Megaron Gamma

(KomIS) Knowledge Discovery meets Information Systems
Session Chair: Fabio Mercorio, University of Milano-Bicocca, Milan, Italy

AN EFFECTIVE AND EFFICIENT ALGORITHM FOR RANKING WEB DOCUMENTS VIA GENETIC PROGRAMMING
Ricardo Baeza-Yates and Alfredo Cuzzocrea

HOW TO IMPLEMENT A BIG DATA CLUSTERING ALGORITHM: A REPORT ON LESSON LEARNED
Michele Ianni, Elio Masciari, Giuseppe Massimo Mazzeo and Carlo Zaniolo

ON-LINE AGGREGATION OF POIS FROM GOOGLE AND FACEBOOK
Maurizio Toccu, Giuseppe Psaila and Davide Altomare

TOPIC-BASED INDEXING OF FEDERATED DATASETS
Ciro Sorrentino, Ester Giallonardo and Eugenio Zimeo

VISCRIMEPREDICT: A SYSTEM FOR CRIME TRAJECTORY PREDICTION AND VISUALISATION FROM HETEROGENEOUS DATA SOURCES
Ahsan Morshed, Abdur Rahim Mohammad Forkan, Pei-Wei Tsai, Prem Prakash Jayaraman, Timos Sellis, Dimitrios Georgakopoulos, Irene Moser and Rajiv Ranjan

WED 16:30 – 18:35
Room: Atrium B

(SE-2) Software Engineering
Session Chair: Byungjeong Lee, University of Seoul, South Korea

JUNIVERSE: LARGE-SCALE JUNIT-TEST ANALYSIS IN THE WILD
Omar Javed, Alex Villazon and Walter Binder

AUTOMATED CLASSIFICATION OF SOFTWARE CHANGE MESSAGES USING MULTI-LABEL ACTIVE LEARNING
Cyrine Gharbi, Mohamed Wiem Mkaouer, Ilyes Jenhani and Montassar Ben Messaoud

PARALLEL PROPERTY CHECKING WITH STAGED SYMBOLIC EXECUTION
Junye Wen and Guowei Yang

A MODEL-DRIVEN APPROACH FOR BEHAVIOR-DRIVEN GUI TESTING
Hendrik Bünder and Herbert Kuchen

WED 16:30 – 18:35
Room: Atrium A

(IAR) Information Access and Retrieval
Session Chair: Marco Viviani, University degli Studi di Milano-Bicocca/DISCo, Milano, Italy

HYBRID MOLECULE-BASED INFORMATION RETRIEVAL
Nathalie CHARBEL, Christian Sallaberry, Sebastien Laborie and Richard Chbeir

ASK TOSCANINI!—ARCHITECTING A SEARCH ENGINE FOR MUSIC SCORES BEYOND METADATA
Arman Bahraini and Eli Tilevich

AMV-LSTM: AN ATTENTION-BASED MODEL WITH MULTIPLE POSITIONAL TEXT MATCHING
Thiziri Belkacem, Taoufiq Dkaki, Jose G. Moreno and Mohand Boughanem

THE IMPORTANCE OF BEING DISSIMILAR IN RECOMMENDATION
Vito Walter Anelli, Tommaso Di Noia, Eugenio Di Sciascio, Azzurra Ragone and Joseph Trotta

Thursday April 11, 2019

Thu 9:25–10:40
Room: Panorama

Keynote Address
Dr. Yiorgos L. Chrysanthou
See page 6 for details.

Thu 10:40 – 11:10

Coffee Break

THU 11:10 – 12:50
Room: Megaron Alpha

(OS-1) Operating Systems
Session Chair: Hoon Ko, IT Research Institute of Chosun University, South Korea

A ROBUST AND SECURE BACKUP SYSTEM FOR PROTECTING MALWARE
Myungjoon Shon, Heejin Kim and Jiman Hong

MY CLOUDY TIME MACHINE: A SCALABLE MICROSERVICE-BASED PLATFORM FOR DATA PROCESSING IN CLOUD-EDGE SYSTEMS
Darius-Florentin Neatu, Radu-Dumitru Stochitoiu, Andrei-Vlad Postoaca, Ion-Dorinel Filip and Florin Pop

MULTITHREADED DOUBLE QUEUING FOR BALANCED CPU-GPU MEMORY COPYING
Sanghun Cho, Jaewan Hong and Hwansoo Han

CACHE-AWARE BLOCK ALLOCATION FOR MEMORY-TECHNOLOGY STORAGE TARGETED FILE SYSTEMS
Jaeheong Ahn, Choulseung Hyun, Donghee Lee and Sam H. Noh

THU 11:10 – 12:50
Room: Megaron Beta

(WCN-1) Wireless Communications and Networking
Session Chair: Donghyun Kim, Kyungpook University, South Korea

ENERGY-AWARE MEDIUM ACCESS CONTROL FOR ENERGY-HARVESTING MACHINE-TO-MACHINE NETWORKS
Dohyung Kim and YoungBae Ko

AN ADAPTIVE ENERGY EFFICIENT SCHEME FOR ENERGY CONSTRAINED WIRELESS SENSOR NETWORKS
Bilal Jan, Haleem Farman, Murad Khan and Syed Hassan Ahmed

SOFTH: SOFT HANDOVER MULTICRITERIA MECHANISM
Guilherme Oliveira, Carlos Storck and Fátima Duarte-Figueiredo

RELIABILITY OF ADS-B COMMUNICATIONS: NOVEL INSIGHTS BASED ON AN EXPERIMENTAL ASSESSMENT
Saeif Alhazbi, Savio Sciancalepore and Roberto Di Pietro

THU 11:10 – 12:50
Room: Megaron Gamma

(MLA-1) Machine Learning and its Applications
Session Chair: TBA

AN ADAPTIVE FRAMEWORK FOR APPLYING MACHINE LEARNING IN SMART SPACES
Sachin Bhardwaj, Keon Myung Lee and Jee-Hyong Lee

CAUSALITY RELATIONSHIP AMONG ATTRIBUTES APPLIED IN AN EDUCATIONAL DATA SET
Walisson Carvalho and Luis Zarate

EVOLVING MIMO MULTI-LAYERED ARTIFICIAL NEURAL NETWORKS USING GRAMMATICAL EVOLUTION
Qadeer Ahmad, Atif Rafiq, Muhammad Adil Raja and Noman Javed

EXACT GAUSSIAN PROCESS REGRESSION WITH DISTRIBUTED COMPUTATIONS
Duc-Trung Nguyen, Maurizio Filippone and Pietro Michiardi

THU 11:10 – 12:50
Room: Atrium B

(SE-3) Software Engineering
Session Chair: Eunjee Song, Baylor University, USA

TOWARD A DECLARATIVE LANGUAGE TO GENERATE EXPLORABLE SETS OF MODELS
Théo Le Calvar, Fabien Chhel, Frédéric Jouault and Frédéric Saubion

SYSTEMATIC TOP-DOWN DESIGN OF CYBER-PHYSICAL MODELS WITH INTEGRATED VALIDATION AND FORMAL VERIFICATION
Christoph Luckeneder and Hermann Kaindl

LIVE AND GLOBAL CONSISTENCY CHECKING IN A COLLABORATIVE ENGINEERING ENVIRONMENT
Michael Troels, Atif Mashkoor and Alexander Egyed

REVISITING CONTINUOUS DEPLOYMENT MATURITY: A TWO-YEAR PERSPECTIVE
Simo Mäkinen, Timo Lehtonen, Terhi Kilamo, Mikko Puonti, Tommi Mikkonen and Tomi Männistö

THU 11:10 – 12:50
Room: Atrium A

(SWA-1) Semantic Web and Applications
Session Chair: Hyoil Han, Illinois State University, USA

EMBEDDING CARDINALITY CONSTRAINTS IN NEURAL LINK PREDICTORS
Emir Munoz, Pasquale Minervini and Matthias Nickles

EXPLOITING CONTEXT AND QUALITY FOR LINKED DATA SOURCE SELECTION
Barbara Catania, Giovanna Guerrini and Beyza Yaman

GEOSENSOR: SEMANTIFYING CHANGE AND EVENT DETECTION OVER BIG DATA
Nikiforos Pittaras, George Papadakis, George Stamoulis, George Giannakopoulos and Manolis Koubarakis

HOW MANY AND WHAT TYPES OF SPARQL QUERIES CAN BE ANSWERED THROUGH ZERO-KNOWLEDGE LINK TRAVERSAL?
Pavlos Fafalios and Yannis Tzitzikas

Thu 12:50 – 14:20
Lunch Break
(Conference venue)

THU 14:30 – 16:30
SRC Oral Presentation
PANOROMA
See page 28 for details.

THU 14:20 – 16:00
Room: Megaron Alpha

(OS-2) Operating Systems
Session Chair: TBA

(WT-1) Web Technologies
Session Chair: Tim A. Majchzak, University of Agder-Kristiansand, Norway

A SOLUTION FOR A DETAILED MATHEMATICAL MODEL FOR THE AIRCRAFT LANDING PROBLEM ON A SINGLE AND MULTIPLE RUNWAY SYSTEM
Meriem Ben Messaoud and Khaled Ghedira

HPANAL: A FRAMEWORK FOR ANALYZING TRADEOFFS OF HUGE PAGES
Gunhee Choi, Juhyung Son, Jongmoo Choi, Seong-je Cho and Youjip Won

BINARY TRANSFORMATION OF APPLICATIONS TO RUN ON BARE PCS
Rasha Almajed, Ramesh Karne and Alexander Wijesinha

A LITERATURE REVIEW OF STUDIES ON INTERACTIVE 3D INFORMATION VISUALIZATION FOR THE WEB
Luiz Soares dos Santos Baglie, Diego Dias, Marcelo Guimarães and José Brega

THU 14:20 – 16:00
Room: Megaron Beta

(WCN-1) Wireless Communications and Networking

Session Chair: Donghyun Kim, Kyungpook University, South Korea

(NGPS) Next Generation Progamming Paradigms and Systems

Session Chair: Frederic Loulergue, Northern Arizona University, USA

A NEW COAP CONGESTION CONTROL SCHEME USING MESSAGE LOSS FEEDBACK FOR IOUT
Minseok KIM, Sungwon Lee, Muhammad Toaha Khan, Junho Seo, Yeongjoon Bae, Yonghwan Jeong and Dongkyun Kim

ON THE FEASIBILITY OF USING IEEE 802.11AD MMWAVE FOR ACCURATE OBJECT DETECTION
Hossein Ajorloo, Cormac J. Sreenan, Adrian Loch Navarro and Joerg Widmer

A MATCHING BASED COEXISTENCE MECHANISM BETWEEN EMBB AND URLLC IN 5G WIRELESS NETWORKS
Anupam Kumar Bairagi, Md. Shirajum Munir, Madyan Alsenwi, Nguyen H. Tran and Choong Seon Hong

SAFE USAGE OF REGISTERS IN BSPLIB
Arvid Jakobsson, Frédéric Dabrowski and Wadoud Bousdira

THU 14:20 – 16:00
Room: Megaron Gamma

(MLA-2) Machine Learning and its Applications

Session Chair: TBA

GAN IS A FRIEND OR FOE? A FRAMEWORK TO DETECT VARIOUS FAKE FACE IMAGES
Simon Woo, Shahroz Tariq, Sangyup Lee, Hoyoung Kim and Youjin Shin

HOW DO IMPLEMENTATION BUGS AFFECT THE RESULTS OF MACHINE LEARNING ALGORITHMS?
Maurizio Leotta, Dario Olianas, Filippo Ricca and Nicoletta Noceti

INFLUENCE MAXIMIZATION FOR EFFECTIVE ADVERTISEMENT IN SOCIAL NETWORKS: PROBLEM, SOLUTION, AND EVALUATION
Suk-Jin Hong, Yun-Yong Ko, Moon-Jeung Joe and Sang-Wook Kim

MARLON - A DOMAIN-SPECIFIC LANGUAGE FOR MULTI-AGENT REINFORCEMENT LEARNING ON NETWORKS
Tim Molderez, Bjarno Oeyen, Coen De Roover and Wolfgang De Meuter

THU 14:20 – 16:00
Room: Atrium B

(SE-4) Software Engineering

Session Chair: Eunjee Song, Baylor University, USA

(RE-1) Requirement Engineering

Session Chair: Joao Araujo, Universidade NOVA de Lisboa, Portugal

MARVALOUS: MACHINE LEARNING BASED DETECTION OF EMOTIONS IN THE VALENCE-AROUSAL SPACE IN SOFTWARE ENGINEERING TEXT
Md Rakibul Islam, Md Kauser Ahmmed and Minhaz F. Zibran

USING DESIGN SPRINT AS A FACILITATOR IN ACTIVE LEARNING FOR STUDENTS IN THE REQUIREMENTS ENGINEERING COURSE: AN EXPERIENCE REPORT
Edna Dias Canedo and Vinicius Gomes Ferreira

REQUIREMENTS FOR PREVENTING LOGIC FLAWS IN THE AUTHENTICATION PROCEDURE OF WEB APPLICATIONS
Youssou Ndiaye, Oliver Barais, Arnaud Blouin, Ahmed Bouabdallah and Nicolas Aillery

LOGIC-BASED METHODOLOGY TO HELP SECURITY ARCHITECTS IN ELICITING HIGH-LEVEL NETWORK SECURITY REQUIREMENTS
Romain Laborde, Sravani Teja BULUSU, Ahmad Samer Wazan, Abdelmalek Benzekri and Francois Barrere

THU 14:20 – 16:00
Room: Atrium A

(SWA-2) Semantic Web and Applications
Session Chair: Beyza Yaman, Infai/Univesity of Leipzig, Germany

IMPROVING THE PERFORMANCE OF QUERYING MULTIDIMENSIONAL RDF DATA USING AGGREGATES
Franck RAVAT, Jiefu SONG, Olivier TESTE and Cassia Trojahn

PARTITIONING AND LOCAL MATCHING LEARNING OF LARGE BIOMEDICAL ONTOLOGIES
Amir Laadhar, Faiza Ghozzi, Imen Megdiche, Ranck Ravat and Olivier Teste

SEMI-AUTOMATIC ONTOLOGY-DRIVEN DEVELOPMENT DOCUMENTATION
Yevgen Pikus, Norbert Weißenberg, Bernhard Holtkamp and Boris Otto

USING CONTEMPORARY CONSTRAINTS TO ENSURE DATA CONSISTENCY
David Abián, Jorge Bernad and Raquel Trillo-Lado

THU 16:00 – 16:30
Coffee Break

THU 16:30 – 18:10
Room: Megaron Alpha

(WT-2) Web Technologies
Session Chair: Tim A. Majchzak, University of Agder-Kristiansand, Norway

ALDONA: A HYBRID SOLUTION FOR SENTENCE-LEVEL ASPECT-BASED SENTIMENT ANALYSIS USING A LEXICALISED DOMAIN ONTOLOGY AND A NEURAL ATTENTION MODEL
Donatas Meskele and Flavius Frasincar

MIND THE CACHE: LARGE-SCALE EXPLORATIVE STUDY OF WEB CACHING
Hoai Viet Nguyen, Luigi Lo Iacono and Hannes Federrath

STANDARDS-DRIVEN METAMODEL TO INCREASE RETRIEVABILITY OF HETEROGENEOUS SERVICES
Martin Garriga and Andrés Flores

AWAITVIZ: A VISUALIZER OF JAVASCRIPT'S ASYNC/AWAIT EXECUTION ORDER
Ena Tominaga, Yoshitaka Arahori and Katsuhiko Gondow

THU 16:30 – 18:10
Room: Megaron Beta

(CCNIV) Communication, Computing and Networking in Internet of Vehicles
Session Chair: Imen Jemili, University of Carthage, Tunisia

USING MACHINE LEARNING FOR HANDOVER OPTIMIZATION IN VEHICULAR FOG COMPUTING
Salman Memon and Muthucumaru Maheswaran

AN APPLICATION-ORIENTED EVALUATION OF LTE-V'S MODE 4 FOR V2V COMMUNICATION
Philip Wendland, Guenter Schaefer and Reiner Thomä

SECURE OVER-THE-AIR FIRMWARE UPDATING FOR AUTOMOTIVE ELECTRONIC CONTROL UNITS
Dimitris Bakoyiannis, Othon Tomoutzoglou and George Kornaros

THU 16:30 – 18:10
Room: Megaron Gamma

(MLA-3) Machine Learning and its Applications
Session Chair: TBA

POPULATION ANOMALY DETECTION THROUGH DEEP GAUSSIANIZATION
david tolpin

REAL-TIME BOTNET DETECTION USING NONNEGATIVE TUCKER DECOMPOSITION
Hideaki Kanehara, Yuma Murakami, Jumpei Shimamura, Takeshi Takahashi, Daisuke Inoue and Noboru Murata

CONVOLUTIONAL NEURAL NETWORK WITH STRUCTURAL INPUT FOR VISUAL OBJECT TRACKING
Mustansar Fiaz, Arif Mahmood and Soon Ki Jung

THU 16:30 – 18:10
Room: Atrium B

(RE-2) Requirement Engineering
Session Chair: Joao Araujo, Universidade NOVA de Lisboa, Portugal

ARROW: AUTOMATIC RUNTIME REAPPRAISAL OF WEIGHTS FOR SELF-ADAPTATION
Luis Hernan Garcia Paucar, Nelly Bencomo and Kevin Kam Fung Yuen

CONTEMPORARY REQUIREMENTS CHALLENGES AND ISSUES: AN EMPIRICAL STUDY IN 11 ORGANIZATIONS
Feng Chen, Norah Power, J.J. Collins and Fuyuki Ishikawa

GOAL MODELING FOR COLLABORATIVE GROUPS OF CYBER-PHYSICAL SYSTEMS WITH GRL
Marian Daun, Viktoria Stenkova, Lisa Krajinski, Jennifer Brings, Torsten Bandyszak and Thorsten Weyer

THU 16:30 – 18:10
Room: Atrium A

(SiSoS) Software-intensive Systems-of-Systems
Session Chair: Flavio Oquendo, IRISA (UMR CNRS) – Univ. South Brittany, France

CONSTRUCTING PRODUCT-LINE SAFETY CASES FROM CONTRACT-BASED SPECIFICATIONS
Damir Nešić, Mattias Nyberg and Barbara Gallina

TOWARDS A FRACTIONATION-BASED VERIFICATION: APPLICATION ON SYSML ACTIVITY DIAGRAMS
Samir Ouchani

Friday April 12, 2019

FRI 9:00 – 10:40
Room: Megaron Alpha

(PL-1) Programming Languages
Session Chair: Barrett Bryant, University of North Texas, USA

AN ATTRIBUTE LANGUAGE DEFINITION FOR ADAPTABLE PARSING EXPRESSION GRAMMARS
Elton M. Cardoso, Rodrigo Ribeiro, Leonardo Reis, Mariza A. S. Bigonha, Roberto S. Bigonha and Vladimir O. Di Iorio

CPEG: A TYPED TREE CONSTRUCTION FROM PARSING EXPRESSION GRAMMARS WITH REGEX-LIKE CAPTURES
Daisuke Yamaguchi and Kimio Kuramitsu

MUSKET: A DOMAIN-SPECIFIC LANGUAGE FOR HIGH-LEVEL PARALLEL PROGRAMMING WITH ALGORITHMIC SKELETONS
Christoph Rieger, Fabian Wrede and Herbert Kuchen

PUREMEM: A STRUCTURED PROGRAMMING MODEL FOR TRANSIENTLY POWERED COMPUTERS
Caglar Durmaz, Kasim Sinan Yildirim and Geylani Kardas

FRI 9:00 – 10:40
Room: Megaron Beta

(HCI) Smart Human Computer Interaction
Session Chair: TBA

DETECTING STRESS FROM MOUSE-GAZE ATTRACTION
Jun Wang, Eugene Yujun Fu, Grace Ngai, Hong Va Leong and Michael Xuelin Huang

EFFECTS OF VIRTUAL-AVATAR MOTION-SYNCHRONY LEVELS ON FULL-BODY INTERACTION
Changyeol Choi, Joohee Jun, Jiwoong Heo and Kwanguk Kim

SMART CONTRACT'S INTERFACE FOR USER CENTRIC BUSINESS MODEL IN BLOCKCHAIN
Malik Junaid Jami Gul and Anand Paul

STYLUS KNIFE: IMPROVING CUTTING SKILL IN PAPER-CUTTING BY IMPLEMENTING PRESSURE CONTROL
Takafumi Higashi and Hideaki Kanai

FRI 9:00 – 10:40
Room: Megaron Gamma

(SFECS) Sustainability of Fog/Edge Computing Systems

Session Chair: Christian Esposito, University of Napoli "Federico II", Italy

EVALUATION OF ACE PROPERTIES OF TRADITIONAL SQL AND NOSQL BIG DATA SYSTEMS
Muhammad Younas, Maria Teresa Gonzalez-Aparicio, Javier Tuya and Ruben Casado

FOG COMPUTING AS THE KEY FOR SEAMLESS CONNECTIVITY HANDOVER IN FUTURE VEHICULAR NETWORKS
Maria Rita Palattella, Ridha Soua, Abdelmajid Khelil and Thomas Engel

RESOURCE-SHARING OPTIMIZATION FOR MULTICAST D2D COMMUNICATIONS UNDERLAYING LTE-A UPLINK CELLULAR NETWORKS
Devarani Devi Ningombam and Seokjoo Shin

TOWARDS A SEAMLESS COORDINATION OF CLOUD AND FOG: ILLUSTRATION THROUGH THE INTERNET-OF-THINGS
Zakaria Maamar

WORD2VEC BASED SPELLING CORRECTION METHOD OF TWITTER MESSAGE
Jeongin Kim, Taekeun Hong and Pankoo Kim

FRI 9:00 – 10:40
Room: Atrium B

(BIO) Bioinformatics

Session Chair: TBA

AN INSIGHT INTO BIOLOGICAL DATA MINING BASED ON RARITY AND CORRELATION AS CONSTRAINTS
Souad Bouasker

DRUG TARGET DISCOVERY USING KNOWLEDGE GRAPH EMBEDDINGS
Sameh K. Mohamed, Aayah Nounu and Vit Novacek

ENSEMBLE FEATURE SELECTION FOR BIOMARKER DISCOVERY IN MASS SPECTROMETRY-BASED METABOLOMICS
Aliasghar Shahrjooihaghighi, Hichem Frigui, Xiang Zhang, Xiaoli Wei, Biyun Shi and Craig J. McClain

MOLECULE SPECIFIC NORMALIZATION FOR PROTEIN AND METABOLITE BIOMARKER DISCOVERY
Ameni Trabelsi, Biyun Shi, Xiaoli Wei, HICHEM FRIGUI, Xiang Zhang, Aliasghar Shahrajooihaghighi and Craig McClain

FRI 9:00 – 10:40
Room: Atrium A

(DS) Data Streams

Session Chair: Jean Paul Barddal, Pontificia Universidade Catolica do Parana, Brazil

EXPLOITING ENTITY INFORMATION FOR STREAM CLASSIFICATION OVER A STREAM OF REVIEWS
Christian Beyer, Vishnu Unnikrishnan, Uli Niemann, Pawel Matuszyk, Eirini Ntoutsi and Myra Spiliopoulou

QUOTIENT HASH FILTERS - EFFICIENTLY FINDING DUPLICATES IN STREAMING DATA
Rémi Géraud, Marius Lombard-Platet and David Naccache

DATASEG: DYNAMIC STREAMING SENSOR DATA SEGMENTATION FOR ACTIVITY RECOGNITION
Hela Sfar and Amel Bouzeghoub

LEARNING REGULARIZED HOEFFDING TREES FROM DATA STREAMS
Jean Paul Barddal and Fabrício Enembreck

FRI 10:40 – 11:10
Coffee Break

FRI 11:10 – 12:50
Room: Megaron Alpha

(PL-1) Programming Languages
Session Chair: Barrett Bryant, University of North Texas, USA

(CC-1) Cloud Computing
Session Chair: TBA

RETRIEVAL OF INDIVIDUAL SOLUTIONS FROM ENCAPSULATED SEARCH WITH A POTENTIALLY INFINITE SEARCH SPACE
Jan C. Dageförde and Herbert Kuchen

Π: TOWARDS A SIMPLE FORMAL SEMANTIC FRAMEWORK FOR COMPILER CONSTRUCTION
Christiano Braga

A PROGRAMMING MODEL AND MIDDLEWARE FOR HIGH THROUGHPUT SERVERLESS COMPUTING APPLICATIONS
Alfonso Perez, Germán Moltó, Miguel Caballer and Amanda Calatrava

FRI 11:10 – 12:50
Room: Megaron Beta

(WICE) Web-based Technologies for Interactive Computing Education
Session Chair: Hasan Jamil, University of Idaho, USA

MEET CYRUS - THE QUERY BY VOICE MOBILE ASSISTANT FOR THE TUTORING AND FORMATIVE ASSESSMENT OF SQL LEARNERS
Josue Godinez and Hasan Jamil

INTEGRATING CONTEXT-AWARENESS AND MULTI-CRITERIA DECISION MAKING IN EDUCATIONAL LEARNING
Yong Zheng, Shephalika Shekhar, Alisha Anna Jose and Sunil Kumar Rai

A WEB-BASED E-ASSESSMENT TOOL FOR DESIGN PATTERNS IN UML CLASS DIAGRAMS
Tobias Reischmann and Herbert Kuchen

ANCHORING INTERACTIVE POINTS OF INTEREST ON WEB-BASED INSTRUCTIONAL VIDEO: EFFECTS ON STUDENTS' INTERACTION BEHAVIOR AND PERCEIVED EXPERIENCE
maria pimentel, Cristiane Yaguinuma, Diogo Santana Martins and Izabela Zaine

FRI 11:10 – 12:50
Room: Megaron Gamma

(MiDOS) Microservices, DevOps, and Serivce-oriented Architecture
Session Chair: Jacopo Mauro, University of Southern Denmark, Denmark

AN EXTENSIBLE DATA-DRIVEN APPROACH FOR EVALUATING THE QUALITY OF MICROSERVICE ARCHITECTURES
Mario Cardarelli, Ludovico Iovino, Paolo Di Francesco, Amleto Di Salle, Ivano Malavolta and Patricia Lago

ATTACK GRAPH GENERATION FOR MICROSERVICE ARCHITECTURE
Amjad Ibrahim, Stevica Bozhinoski and Alexander Pretschner

REACTIVE MICROSERVICES FOR THE INTERNET OF THINGS: A CASE STUDY IN FOG COMPUTING
Cleber Jorge Lira de Santana, Brenno Alencar and Cassio Prazeres

TRANSPARENT TRACING OF MICROSERVICE-BASED APPLICATIONS
Matheus Santana, Nelson Rosa, Adalberto Sampaio Jr and Marcos Andrade

FRI 11:10 – 12:50
Room: Atrium B

(VSPLE) Variability and Software Product Line Engineering
Session Chair: Abdelhak-Djamel SERIAI, University of Montpellier, France

A GENERIC TRACEABILITY METAMODEL FOR ENABLING UNIFIED END-TO-END TRACEABILITY IN SOFTWARE PRODUCT LINES
Philipp Heisig, Jan-Philipp Steghöfer, Christopher Brink and Sabine Sachweh

EVALUATING VARIABILITY AT THE SOFTWARE ARCHITECTURE LEVEL: AN OVERVIEW
Ana Paula Allian, Bruno Sena and Elisa Yumi Nakagawa

TEST CASE SELECTION USING STRUCTURAL COVERAGE IN SOFTWARE PRODUCT LINES FOR TIME-BUDGET CONSTRAINED SCENARIOS
Urtzi Markiegi, Aitor Arrieta, Leire Etxeberria and Goiuria Sagardui

FRI 11:10 – 12:50
Room: Atrium A

(CIVIA) Computational Intelligence and Video & Image Analysis
Session Chair: Agostinho Rosa, University of Lisbon, Portugal

(COMBI) Advances in Computational Biomedical Imaging
Session Chair: TBA

2D CHARACTER ANIMATING NETWORKS: BRINGING STATIC CHARACTERS TO MOVE VIA MOTION TRANSFER
Zackary P. T. Sin, Peter H. F. Ng, Simon C. K. Shiu, Fu-lai Chung and Hong-va Leong

VISUAL CONTENT BASED VIDEO RETRIEVAL ON NATURAL LANGUAGE QUERIES
Ravi Bansal and Sandip Chakraborty

AN EFFECTIVE HYBRID IMPERIALIST COMPETITIVE ALGORITHM AND TABU SEARCH FOR AN EXTENDED FLEXIBLE JOB SHOP SCHEDULING PROBLEM
Willian Tessaro Lunardi, Holger Voos and Luiz Henrique Cherri

BGROWTH: AN EFFICIENT APPROACH FOR THE SEGMENTATION OF VERTEBRAL COMPRESSION FRACTURES IN MAGNET RESONANCE IMAGING
Jonathan Ramos, Carolina Watanabe, Marcello Nogueira-Barbosa and Agma Traina

FRI 12:50 – 14:20
Lunch Break
(Conference venue)

FRI 14:20 – 16:25
Room: Megaron Alpha

(CC-2) Cloud Computing
Session Chair: TBA

MINIMIZING FINANCIAL COST OF SCIENTIFIC WORKFLOWS UNDER DEADLINE CONSTRAINTS IN MULTI-CLOUD ENVIRONMENTS
Tianyu Gao, Chase Wu, Aiqin Hou, Yongqiang Wang, Ruxia Li and Mingrui Xu

MODELLING MULTI LEVEL CONSISTENCY IN ERASURE CODE BASED STORAGE SYSTEMS
Ojus Thomas Lee, Vijay Sharma, Madhu Kumar S D and Priya Chandran

OVERSUBSCRIBING MICRO-CLOUDS WITH ENERGY-AWARE CONTAINERS SCHEDULING
Sérgio Mendes, José Simão and Luís Veiga

SECURE CONTAINER ORCHESTRATION IN THE CLOUD: POLICIES AND IMPLEMENTATION
Gabriel Fernandez and Andrey Brito

THE LORD OF THE SHARES: COMBINING ATTRIBUTE-BASED ENCRYPTION AND SEARCHABLE ENCRYPTION FOR FLEXIBLE DATA SHARING
Antonis Michalas

FRI 14:20 – 16:25
Room: Megaron Beta

(HI) Health Informatics
Session Chair: Anu Mary Chacko, National Institute of Technology, Calicut, India

A TWO-STEP APPROACH TO PREDICTIVE MODELING OF INDIVIDUAL-BASED ENVIRONMENTAL HEALTH RISKS
Wan D. Bae, Shayma Alkobaisi, Matthew Horak, Sehjeong Kim, Sada Narayanappa, Choon-Sik Park and Da Jeong Bae

RESOLVING DATA INTEROPERABILITY IN UBIQUITOUS HEALTH PROFILE USING SEMI-STRUCTURED STORAGE AND PROCESSING
Fahad Ahmed Satti, Ganghun Lee, Wajahat Ali Khan and Sungyoung Lee

LEVERAGING THE LINK QUALITY AWARENESS FOR BODY NODE COORDINATOR (BNC) PLACEMENT IN WBANS
rim negra, Imen JEMILI, Zemmari Akka, Mohamed Mosbah, Abdelfettah Belghith and Nesrine Ouled Abdallah

APPLYING SITUATION-AWARENESS FOR RECOMMENDING PHONOLOGICAL PROCESSES IN THE CHILDREN'S SPEECH
Maria Helena Franciscatto, Celio Trois, João Carlos Damasceno Lima, Vinícius Maran and Marcia Keske Soares

GRAPH SPARSIFICATION WITH PARALLELIZATION TO OPTIMIZE THE IDENTIFICATION OF CAUSAL GENES AND DYSREGULATED PATHWAYS
Jeethu V Devasia, Priya Chandran, Anjana Soman, Aiswarya Elezabeth Mathew and Jaya Jharwal

FRI 14:20 – 16:25
Room: Megaron Gamma

(SATTA) Software Architecture: Theory, Technology, and Applications
Session Chair: Sungwon Kang, Korea Advanced Institute of Science and Technology, Daejeon, South Korea

THE EFFECT OF GAMIFICATION ON SOFTWARE ARCHITECTURE KNOWLEDGE MANAGEMENT: A STUDENT EXPERIMENT AND FOCUS GROUP STUDY
Benjamin Mayer and Rainer Weinreich

AIDING THE REALIZATION OF SERVICE-ORIENTED DISTRIBUTED SYSTEMS
Marco Autili, Amleto Di Salle, Francesco Gallo, Claudio Pompilio and Massimo Tivoli

A RESTFUL ARCHITECTURE FOR DATA EXPLORATION AS A SERVICE
Yun Zhang, Xiwei Xu, Suhrid Satyal, Shiping Chen and Liming Zhu

AN EXPLORATORY STUDY OF MVC-BASED ARCHITECTURAL PATTERNS IN ANDROID APPS
Aymen Daoudi, Ghizlane ElBoussaidi, Naouel Moha and Sègla Kpodjedo

JCALIPER: SEARCH-BASED TECHNICAL DEBT MANAGEMENT
Panagiotis Kouros, Theodore Chaikalis, Elvira-Maria Arvanitou, Alexander Chatzigeorgiou, Apostolos Ampatzoglou and Theodoros Amanatidis

FRI 14:20 – 16:25
Room: Atrium B

(RS) Recommender Systems: Theory and Applications
Session Chair: Panagiotis Symeonidis, Free University of Bozen-Bolzano, Italy

COMMUNITY-AWARE DIVERSIFICATION OF RECOMMENDATIONS
Mesut Kaya and Derek Bridge

GLOBAL VERSUS INDIVIDUAL ACCURACY IN CONTEXTUAL MULTI-ARMED BANDIT
Nicolas Gutowski, Tassadit Amghar, Olivier Camp and Fabien Chhel

MATRIX FACTORIZATION BASED HEURISTICS FOR CONSTRAINT-BASED RECOMMENDERS
Seda Polat Erdeniz, Alexander Felfernig, Ralph Samer and Muesluem Atas

TOP-N GROUP RECOMMENDATIONS WITH FAIRNESS
Dimitris Sacharidis

TOWARDS EXPLAINING RECOMMENDATIONS THROUGH LOCAL SURROGATE MODELS
Caio Nóbrega and Leandro Marinho

POSTERS LISTING

WED 10:40 - 12:50
Poster Session I
(Panorama)

(IRMAS) ROBOPLANNER : AUTONOMOUS ROBOTIC ACTION PLANNING VIA KNOWLEDGE GRAPH QUERIES
Ajay Kattepur and Balamuralidhar P

(IRMAS) SOCIAL ROBOT NAVIGATION BASED ON HRI NON-VERBAL COMMUNICATION: A CASE STUDY ON AVOCADO HARVESTING
Juan Pablo Vasconez, Leonardo Guevara and Fernando Auat Cheein

(KOMIS) A DEEP LEARNING BASED COMMUNITY DETECTION APPROACH
Giancarlo Sperlì

(KOMIS) CATFISH DENSITY ESTIMATION BY AERIAL IMAGES ANALYSIS AND DEEP LEARNING
Donatello Conte, Pierre Gaucher and Carlo Sansone

(MCA) EXTENDED SAMMON PROJECTION AND WAVELET KERNEL EXTREME LEARNING MACHINE FOR GAIT-BASED LEGITIMATE USER IDENTIFICATION
Muhammad Ahmad

(NET) IMPLEMENTING CONTENT-BASED PUBLISH/SUBSCRIBE WITH OPENFLOW
Helge Parzyjegla, Christian Wernecke, Gero Mühl, Eike Schweissguth and Dirk Timmermann

(WCN) A NEW FUZZY/EVIDENTIAL APPROACH TO ADDRESS THE AREA COVERAGE PROBLEM IN MOBILE WIRELESS SENSOR NETWORKS
Boualem Adda, Dahmani Youcef, Ayaida Marwane and de Runz Cyril

(WT) CONTEXT-AWARE RECOMMENDATIONS VIA SEQUENTIAL PREDICTIONS
Yong Zheng and Alisha Anna Jose

(WT) UTILITY-BASED MULTI-CRITERIA RECOMMENDER SYSTEMS
Yong Zheng

(WT) COMPUTATIONAL THINKING WITH THE WEB CROWD USING CODEMAPPER
Patrick Vanvorce and Hasan Jamil

(BPMEA) CONFIGURING SQL-BASED PROCESS MINING FOR PERFORMANCE AND STORAGE OPTIMISATION
Stefan Schönig, Claudio Di Ciccio and Jan Mendling

(BPMEA) FORMAL SUPPORT OF PROCESS CHAIN NETWORKS USING MODEL-DRIVEN ENGINEERING AND PETRI NETS
Elena Gómez-Martínez, Francisco Pérez-Blanco, Juan de Lara, Juan Manuel Vara and Esperanza Marcos

(BPMEA) ON THE ELICITATION AND ANNOTATION OF BUSINESS ACTIVITIES BASED ON EMAILS
Diana Jlailaty, Daniela Grigori and Khalid Belhajjame

(RE) ELICITATION OF TECHNICAL REQUIREMENTS IN LARGE RESEARCH PROJECTS: THE CERBERO APPROACH
Michael Masin, Francesca Palumbo, Joost Adriaanse, Hans Myrhaug, Francesco Regazzoni, Manuel Sanchez and Katiuscia Zedda

(SE) CLASSIFYING SOFTWARE ISSUE REPORTS THROUGH ASSOCIATION MINING
Mohd Syafiq Zolkeply and Jianhua Shao

(SE)MINING CONSTRAINTS FOR MONITORING SYSTEMS OF SYSTEMS
Thomas Krismayer, Rick Rabiser and Paul Grünbacher

(SE)PRIVACY PRESERVING 2-PARTY QUERIES ON BIPARTITE GRAPHS WITH PRIVATE SET INTERSECTION
Sara Ramezanian, Tommi Meskanen and Valtteri Niemi

(SE) SYNTHESISING CALL SEQUENCES FROM OCL OPERATIONAL CONTRACTS
Hao Wu

(SE) TESTLOCAL: JUST-IN-TIME PARAMETRIZED TESTING OF LOCAL VARIABLES
Akbar Siami Namin and Marcel Heimlich

(SE) TOWARDS A REQUIREMENTS LANGUAGE FOR MODELING EMOTION IN VIDEOGAMES
JOAO ARAUJO, Ana Moreira and Gonçalo Miguéis

(SE) VERICCM: IMPROVING THE SYNTAX AND SEMANTICS OF REQUIREMENTS MODELS
Danielle Gaither, Kaushik Madala, Hyunsook Do and Barrett R. Bryant

(UE) DEVELOPING A MENTAL MODEL FOR USE IN THE CONTEXT OF COMPUTER SECURITY
Isaiah Liljestrand, Marcelo Gonzales and Dongwan Shin

(UE) USER EXPERIENCE EVALUATION FOCUSED ON VIEWPOINTS AND EMBODIMENT
Cristina A Scheibler and Maria Andreia F Rodrigues

(VSPLE) TOWARDS VARIANT MANAGEMENT AND CHANGE IMPACT ANALYSIS IN SAFETY-ORIENTED PROCESS-PRODUCT LINES
Muhammad Atif Javed, Barbara Gallina and Anna Carlsson

(CPS) EMERGING COTS ARCHITECTURE SUPPORT FOR REAL-TIME TSN ETHERNET
James Coleman, Sara Almalih, Alexander Slota and Yann-Hang Lee

(EMBS) IMPACT OF SOURCE SCHEDULING ON END-TO-END LATENCIES IN A QOS-AWARE AVIONICS NETWORK
Oana Hotescu, Katia Jaffres-Runser, Jean-Luc Scharbarg and Christian Fraboul

(EMBS) GRAPHICAL PROGRAM TRANSFORMATIONS FOR EMBEDDED SYSTEMS
Robert Stewart, Bernard Berthomieu, Paulo Garcia, Idris Ibrahim, Greg Michaelson and Andrew Wallace

(OS) A RENDEZVOUS NODE SELECTION PROTOCOL FOR DRONE BASED DATA COLLECTION
Hong Min, Kwangsoo Jo, Jinman Jung, Bongjae Kim and Junyoung Heo

(OS) PREDICTING 24-HOURS AHEAD PHOTOVOLTAIC POWER OUTPUT USING FORECAST INFORMATION
Jaehyun Kim, Taehyoung Kim, Jieun Lee and Kyung Sun Ham

(PDP) AILOCKER: AUTHENTICATED IMAGE LOCKER FOR VIDEO
Jihye Kim, Hankyung Ko and Hyunok Oh

(PDP) A COMPARISON OF SYSTEM DESCRIPTION MODELS FOR DATA PROTECTION BY DESIGN
Laurens Sion, Pierre Dewitte, Dimitri Van Landuyt, Kim Wuyts, Ivo Emanuilov, Peggy Valcke and Wouter Joosen

(PL) APPLYING A DATA-CENTRIC FRAMEWORK FOR DEVELOPING MODEL TRANSFORMATIONS
Luiz Camargo and Marcos Del Fabro

(PL) FYR: A MEMORY-SAFE AND THREAD-SAFE SYSTEMS PROGRAMMING LANGUAGE
Torben Weis, Marian Waltereit and Maximilian Uphoff

(PL) PARALLEL PROGRAMMING WITH COQ: MAP AND REDUCE SKELETONS ON TREES
Jolan Philippe and Frederic Loulergue

(RS) CORE: A COLD-START RESISTANT AND EXTENSIBLE RECOMMENDER SYSTEM
Mostafa Bayomi, Annalina Caputo, Matthew Nicholson, Anirban Chakraborty and Séamus Lawless

(RS) PRESELECTION OF DOCUMENTS FOR PERSONALIZED RECOMMENDATIONS OF JOB POSTINGS BASED ON WORD EMBEDDINGS
Steffen Schnitzer, Dominik Reis, Wael Alkhatib, Christoph Rensing and Ralf Steinmetz

(RS) THE INFLUENCE OF TRUST CUES ON THE TRUSTWORTHINESS OF ONLINE REVIEWS FOR RECOMMENDATIONS
Catalin-Mihai Barbu, Guillermo Carbonell and Jürgen Ziegler

(SP) A DESIGN AND IMPLEMENTATION WIND FARM REAL-TIME SIMULATOR WITH VARIOUS TYPES OF WIND TURBINE CONSIDERING WAKE EFFECT
Taehyoung Kim, Jaehyun Kim, Jieun Lee and Kyung Sun Ham

(SP) A NOVEL APPROACH FOR COLLECTING AND SHARING SOFTWARE METRICS DATA
Ilya Khomyakov and Alberto Sillitti

WED 16:00 - 18:10
Poster Session II
(Panorama)

(KLP) A HYBRID DEEP LEARNING NETWORK FOR MODELLING OPINIONATED CONTENT
Pantelis Agathangelou and Ioannis Katakis

(KLP) A PORTABLE GRAMMAR-BASED NLG SYSTEM FOR VERBALIZATION OF STRUCTURED DATA
Simon Mille, Stamatia Dasiopoulou and Leo Wanner

(KLP) LOOKING INTO THE PAST: EVALUATING THE EFFECT OF TIME GAPS IN A PERSONALIZED SENTIMENT MODEL
Siwen Guo, Sviatlana Höhn and Christoph Schommer

(KLP) OVERWHELMED BY NEGATIVE EMOTIONS? MAYBE YOU ARE BEING CYBER-BULLIED!
Pinar Arslan, Michele Corazza, Elena Cabrio and Serena Villata

(KRR) HYBRID TEMPORAL SITUATION CALCULUS
Vitaliy Batusov, Giuseppe De Giacomo and Mikhail Soutchanski

(MLA) AN EFFICIENT DEEP LEARNING PLATFORM FOR DETECTING OBJECTS
Hansol Lee, Younggwan Kim and Jiman Hong

(MLA) MACHINE LEARNING BASED REAL-TIME VEHICLE DATA ANALYSIS FOR SAFE DRIVING MODELING
Pamul Yadav, Dhananjay Singh and Sangsu Jung

(MLA) MULTIPLE PERSPECTIVES HMM-BASED FEATURE ENGINEERING FOR CREDIT CARD FRAUD DETECTION
Yvan Lucas, PIerre-Edouard Portier, Léa Laporte, Sylvie Calabretto, Olivier Caelen, Liyun He--Guelton and Michael Granitzer

(MLA) TOWARD A CONTINUOUS AUTHENTICATION SYSTEM USING, A BIOLOGICALLY INSPIRED MACHINE LEARNING APPROACH: A CASE STUDY
Obada Zoubi and Mariette Awad

(CC) PERFORMANCE OVERHEAD OF CONTAINER ORCHESTRATION FRAMEWORKS FOR MANAGEMENT OF MULTI-TENANT DATABASE DEPLOYMENTS
Eddy Truyen, Dimitri van Landuyt, Bert Lagaisse and Wouter Joosen

(CC) DIABETES CARE IN CLOUD - RESEARCH CHALLENGES
Merlin George, Dr. Anu Mary Chacko, Dr. Sudeep Koshy Kurien and Dr. Naseer Ali

(CCNIV) EXPLOITING AUTOMATED PLANNING FOR EFFICIENT CENTRALIZED VEHICLE ROUTING AND MITIGATING CONGESTION IN URBAN ROAD NETWORKS
Lukas Chrpa, Mauro Vallati and Simon Parkinson

(DADS) DISTRIBUTED STORAGE SYSTEM BASED ON PERMISSIONED BLOCKCHAIN
Racin Nygaard, Hein Meling and Leander Jehl

(DADS) IS IT SAFE TO DOCKERIZE MY DATABASE BENCHMARK?
Martin Grambow, Jonathan Hasenburg and David Bermbach

(DAPP) PROCESS TRACEABILITY IN DISTRIBUTED MANUFACTURING USING BLOCKCHAINS
Sebastian Geiger, Daniel Schall, Sebastian Meixner and Andreas Egger

(MiDOS) A MODEL-DRIVEN WORKFLOW FOR DISTRIBUTED MICROSERVICE DEVELOPMENT
Florian Rademacher, Jonas Sorgalla, Sabine Sachweh and Albert Zündorf

(DBDM) A SCALABLE AND PERSISTENT KEY-VALUE STORE USING NON-VOLATILE MEMORY
Doyoung Kim, Won Gi Choi, Hanseung Sung and Sanghyun Park

(DBDM) THE SIMILARQL FRAMEWORK: SIMILARITY QUERIES IN PLAIN SQL
Caetano Traina Jr., Agma Traina, Robson Cordeiro, Cristina Ciferry, Guilherme Rocha and Andre Moriyama

(DM) K-MIXED PROTOTYPES: A CLUSTERING ALGORITHM FOR RELATIONAL DATA WITH MIXED ATTRIBUTE TYPES
Rahmah Brnawy and Nematollaah SHIRI

(DM) MINING PRODUCT OPINIONS WITH MOST FREQUENT CLUSTERS OF ASPECT TERMS
Chukwuma Ejieh, Christie Ezeife and Ritu Chaturvedi

(DS) DECISION TREE-BASED FEATURE RANKING IN CONCEPT DRIFTING DATA STREAMS
Jean Antonio Pereira Karax, Andreia Malucelli and Jean Paul Barddal

(DS) STREAMING PIECEWISE LINEAR APPROXIMATION FOR EFFICIENT DATA MANAGEMENT IN EDGE COMPUTING
Romaric Duvignau, Vincenzo Gulisano, Marina Papatriantafilou and Vladimir Savic

(GIA) SIMILARITY-BASED VISUAL EXPLORATION OF VERY LARGE GEOREFERENCED MULTIDIMENSIONAL DATASETS
Erick Gomez Nieto and Roger Peralta

(GIA) THE ROLE OF GEOGRAPHIC KNOWLEDGE FOR SUB-CITY LEVEL GEOLOCATION
Laura Di Rocco, Michela Bertolotto, Davide Buscaldi, Barbara Catania and Giovanna Guerrini

(HI) AN ITERATIVE OVERSAMPLING APPROACH FOR ORDINAL CLASSIFICATION
Francisco Marques, Inês Domingues, Pedro Abreu, José Amorim, Hugo Duarte and João Santos

(HI) IPBN: ALERTS MANAGEMENT IN INTRAVENOUS ELECTROMEDICAL DEVICES USING BAYESIAN NETWORKS
Fabrício Ferreira, Alexandre de Souza, Jorge Barbosa, Adenauer Yamin and Luciano Agostini

(SONAMA) A TOOL FOR SPATIO-TEMPORAL ANALYSIS OF SOCIAL ANXIETY WITH TWITTER DATA
Joohong Lee, Dongyoung Sohn and Yong Suk Choi

(SONAMA) EVALUATING NEURAL WORD EMBEDDINGS CREATED FROM ONLINE COURSE REVIEWS FOR SENTIMENT ANALYSIS
Danilo Dessi', Mauro Dragoni, Gianni Fenu, Mirko Marras and Diego Reforgiato Recupero

(SONAMA) KNAPSACK-BASED REVERSE INFLUENCE MAXIMIZATION FOR TARGET MARKETING IN SOCIAL NETWORKS
Ashis Talukder and Choong Seon Hong

(SONAMA) PREDICTING EVENT ATTENDANCE EXPLORING SOCIAL INFLUENCE
Michael Granitzer and Fatemeh Salehi Rizi

(SONAMA) SEMANTIC ANALYSIS FOR PARAPHRASE IDENTIFICATION USING SEMANTIC ROLE LABELING
Eunji Lee, Htet Myet Lynn, Hyoungju Kim and Pankoo Kim

(SWA) A TOOL FOR EXPLORING NETWORKS OF COMPUTER SCIENTISTS AS A GRAPH
Mirko Cesarini, Fabio Mercorio, Mario Mezzanzanica, Vincenzo Moscato and Antonio Picariello

(SWA) THE SCIENTIFIC EVENTS ONTOLOGY OF THE OPENRESEARCH.ORG CURATION PLATFORM
Said Fathalla, Sahar Vahdati, Sören Auer and Christoph Lange

(WICE) RESOURCES FOR HEALTHCARE WORKFLOW MODELING AND ANALYSIS
Hossain Shahriar, Chi Zhang and Md Arabin Islam Talukder

(WICE) MORE THAN THE SUM OF ITS PARTS: COMPOSING LEARNING FORMATS FROM CORE COMPONENTS
Niels Heller, Sebastian Mader and François Bry

(IoT) HYGIEIA: DATA QUALITY ASSESSMENT FOR SMART SENSOR NETWORK
Gabriel Rodrigues Caldas de Aquino, Claudio Miceli de Farias and Luci Pirmez

(IoT) PEDAL:POWER-DELAY PRODUCT OBJECTIVE FUNCTION FOR INTERNET OF THINGS APPLICATIONS
Bardia Safaei, Ali Asghar Mohammad Salehi, Maryam Shirbeigi, Amir Mahdi Hosseini Monazzah and Alireza Ejlali

(SiSoS) THE PRELIMINARY RESULTS OF A MAPPING STUDY OF DEPLOYMENT AND ORCHESTRATION FOR IOT
Phu Nguyen, Nicolas Ferry, Gencer Erdogan, Hui Song, Stéphane Lavirotte, Jean-Yves Tigli and Arnor Solberg

(SiSoS) DATA-DRIVEN ENVIRONMENT MODELING FOR ADAPTIVE SYSTEM-OF-SYSTEMS
Yong-Jun Shin, Young-Min Baek, Eunkyoung Jee and Doo-Hwan Bae

Student Research Competition Program

(DM) STUDENT RESEARCH ABSTRACT: CRYPTOCURRENCY WORLD IDENTIFICATION AND PUBLIC CONCERNS DETECTION VIA SOCIAL MEDIA
Shaista Bibi

(DM) STUDENT RESEARCH ABSTRACT: FUZZY-RULE BASED APPROACH FOR FEATURE SELECTION IN TEXT CLASSIFICATION
Bushra Zaheer

(HCI) STUDENT RESEARCH ABSTRACT: TOWARDS TEXTUALISING ANALYTIC PROVENANCE FOR VISUAL ANALYTICS USING NATURAL LANGUAGE GENERATION
Waqas Khawaja

(HCI) STUDENT RESEARCH ABSTRACT: HUMAN-ENABLED SUSTAINABLE MANAGEMENT OF MOBILE CLOUD ON 5G NETWORK
Sadia Din

(HI) STUDENT RESEARCH ABSTRACT: MORTALITY PREDICTION USING MEDICAL NOTES
Mahnaz Koupaee

(HI) VIDEO-BASED DECISION SUPPORT FOR BEHAVIORAL VETERINARIANS: A CASE STUDY OF CANINE ADHD
Asaf Fux

(IRMAS) STUDENT RESEARCH ABSTRACT: TAKING STIGMERGY OUT OF THE LAB AND INTO THE FIELD
Siobhan Duncan

(KRR) STUDENT RESEARCH ABSTRACT: AUTOMATIC DERIVATION OF FORMULAS BY GRAPH EMBEDDING AND PATTERN MATCHING NETWORK
MinCong Luo

(KRR) STUDENT RESEARCH ABSTRACT: MODELLING THE DYNAMICS OF FORGETTING AND REMEMBERING BY A SYSTEM OF BELIEF CHANGES
Kai Sauerwald

(MCA) STUDENT RESEARCH ABSTRACT: SMART MOBILE CROWDSENSING FOR TINNITUS RESEARCH
Muntazir Mehdi

(NET) STUDENT RESEARCH ABSTRACT: EXTENDING LORA NETWORKS: DYNAMIC ROUTING PROTOCOLS AND SUB-GHZ RADIO TECHNOLOGY FOR VERY LONG RANGE MESH NETWORKS
Roger Pueyo Centelles

(RE) STUDENT RESEARCH ABSTRACT : SRCMIM: MANAGING REQUIREMENTS CHANGEACTIVITIES IN GLOBAL SOFTWARE DEVELOPMENT
Muhammad Azeem Akbar

(SE) STUDENT RESEARCH ABSTRACT: EMPIRICAL STUDY ON DEVELOPER'S PERCEPTION REGARDING REWARD PRACTICES
Hina Gul Afridi

(SEC) STUDENT RESEARCH ABSTRACT: ``HARD TO UNDERSTAND, EASY TO IGNORE'': AN AUTOMATED APPROACH TO PREDICT MOBILE APP PERMISSION REQUESTS
Majid Hatamian

(SEC) STUDENT RESEARCH ABSTRACT: DIGITAL FORENSICS IN THE INTERNET OF THINGS
Monina Schwarz

(SWA) STUDENT RESEARCH ABSTRACT: USER'S PROFILE ONTOLOGY-BASED SEMANTIC MODEL FOR PERSONALIZED HOTEL ROOM RECOMMENDATION IN THE WEB OF THINGS
Ronald Ojino

SAC 2020 INVITATION

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End of Program