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

Software Design and Development
(BPMEA, RE, SATTA, SE, SOAP, SVT)

Information Systems
(DM, DS, DTTA, IAR, SONAMA, SWA)

Distributed Systems
(CC, DADS, MCA, NET, SAWCN, WT)

System Software and Security
(CPS, EMBS, IoT, OOPS, OS, PAPP, PL, RS, SEC, SiSoS, SP, TRECK)

Al and Agents
(BIO, CASM, CIVIA, CoCo, COMBI, HCI, IRMAS, KRR)

Hosted by
University of Cyprus, Cyprus
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutorial Sessions (9:00-12:30)</td>
<td>Opening Remarks (9:00-9:25)</td>
<td>AM Breakout Sessions (9:00-10:40)</td>
<td>Keynote Session (9:25-10:40)</td>
<td>AM Breakout Sessions (9:00-10:40)</td>
</tr>
<tr>
<td>SAC Luncheon for all (tutorial) Registered Attendees (12:30-14:30) (Location: Conference venue)</td>
<td>SAC Luncheon for all Registered Attendees (12:50-14:20) (Location: Conference venue)</td>
<td>SAC Luncheon for all Registered Attendees (12:50-14:20) (Location: Conference venue)</td>
<td>SAC Luncheon for all Registered Attendees (12:50-14:20) (Location: Conference venue)</td>
<td>SAC Luncheon for all Registered Attendees (12:50-14:20) (Location: Conference venue)</td>
</tr>
<tr>
<td>Tutorial Sessions (14:30-18:00)</td>
<td>PM Breakout Sessions (14:20-16:00)</td>
<td>PM Breakout Sessions (14:20-16:00)</td>
<td>PM Breakout Sessions (14:20-16:00)</td>
<td>PM Breakout Sessions (14:20-16:25)</td>
</tr>
<tr>
<td>Coffee Break (16:00-16:30)</td>
<td>SRC Posters Exhibit (14:30-18:00)</td>
<td>PM Posters Sessions (16:00-18:10)</td>
<td>SRC Oral Presentations (14:30-16:30)</td>
<td></td>
</tr>
<tr>
<td>Coffee Break (16:00-16:30)</td>
<td>PM Breakout Sessions (16:30-18:35)</td>
<td>Coffee Break (16:00-16:30)</td>
<td>Coffee Break (16:00-16:30)</td>
<td></td>
</tr>
<tr>
<td>PM Breakout Sessions (16:30-18:35)</td>
<td></td>
<td>PM Breakout Sessions (16:30-18:35)</td>
<td>PM Breakout Sessions (16:30-18:35)</td>
<td></td>
</tr>
<tr>
<td>SIGAPP Annual Business Meeting (18:40-19:30) (Atrium B Room)</td>
<td>Future SAC Organization Meeting (18:40-19:30) (Location: Atrium B Room)</td>
<td>Track Chairs Business Meeting (working lunch) (13:10-14:00) (Conference venue)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIGAPP Reception (19:30-21:00) (Location: Panorama Room)</td>
<td></td>
<td>SAC Banquet (18:30-23:30)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### **SAC 2019 Session Schedule**

#### Monday April 8, 2019

*Tutorial Sessions – Please see more on Tutorials Page*

---

#### Tuesday April 9, 2019

<table>
<thead>
<tr>
<th>Room</th>
<th>9:00 - 10:40am</th>
<th>11:10am - 12:50pm</th>
<th>2:20 - 4:00pm</th>
<th>4:30 – 6:35pm</th>
</tr>
</thead>
</table>
| Megaron Alpha | Opening Remarks (9:00am)  
Keynote Address (9:25am) | 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) |
| Phoenix | DM-1 (4) | DM-2 (2)+DLHW(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

<table>
<thead>
<tr>
<th>Room</th>
<th>9:00 - 10:40am</th>
<th>11:10am - 12:50pm</th>
<th>2:20 - 4:00pm</th>
<th>4:30 – 6:35pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Megaron Alpha</td>
<td>IoT-1 (4)</td>
<td>IoT-2 (3)</td>
<td>CPS (4)</td>
<td>EMBS (5)</td>
</tr>
<tr>
<td>Megaron Beta</td>
<td>DADS-1 (4)</td>
<td>DADS-2 (4)</td>
<td>NET (4)</td>
<td>MCA (5)</td>
</tr>
<tr>
<td>Megaron Gamma</td>
<td>KLP-1  (4)</td>
<td>KLP-2  (4)</td>
<td>KLP-3 (2)</td>
<td>KomIS (5)</td>
</tr>
<tr>
<td>Atrium B</td>
<td>SVT-1 (4)</td>
<td>SVT-2 (4)</td>
<td>SE-1 (4)</td>
<td>SE-2 (4)</td>
</tr>
<tr>
<td>Phoenix</td>
<td>SONAMA-1 (4)</td>
<td>SONAMA-2 (4)</td>
<td>GIA (4)</td>
<td>IAR (5)</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Room</th>
<th>9:25 - 10:40am</th>
<th>11:10am - 12:50pm</th>
<th>2:20 - 4:00pm</th>
<th>4:30 – 6:10pm</th>
</tr>
</thead>
</table>
| Megaron Alpha | Keynote Address (9:25am)  
Panorama | OS-1 (4) | OS-2 (3) + WT-1 (1) | WT-2 (4) |
<p>| Megaron Beta | WCN-1 (4) | WCN-2 (3) + NGPS (1) | CCNIV (3) |
| Megaron Gamma | MLA-1 (4) | MLA-2 (4) | MLA-3 (3) |</p>
<table>
<thead>
<tr>
<th>Room</th>
<th>9:00 - 10:40am</th>
<th>11:10am - 12:50pm</th>
<th>2:20 - 4:25pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Megaron Alpha</td>
<td>PL-1 (4)</td>
<td>PL-2 (2) + CC-1(1)</td>
<td>CC-2 (5)</td>
</tr>
<tr>
<td>Megaron Beta</td>
<td>HCI (4)</td>
<td>WICE (4)</td>
<td>HI (5)</td>
</tr>
<tr>
<td>Megaron Gamma</td>
<td>SFECS (4)</td>
<td>MiDOS (4)</td>
<td>SATTA (5)</td>
</tr>
<tr>
<td>Atrium B</td>
<td>BIO (4)</td>
<td>VSPLE (3)</td>
<td>RS (5)</td>
</tr>
<tr>
<td>Phoenix</td>
<td>DS (4)</td>
<td>CIVIA (3) + COMBI(1)</td>
<td></td>
</tr>
</tbody>
</table>
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 interdisciplinary 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 Papadopoulos
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
SAC has become a major international venue for Applied Computing (SAC 2019). For the past 33 years, SAC has welcomed you to SAC 2019 in the beautiful city of Limassol, Cyprus. We hope you enjoy the SAC 2019 welcome you 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 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 were accepted as poster papers for the Posters program. The open Call for Track Proposals and after prescreening the proposals, 46 Tracks were finally accepted for SAC 2019. The prescreening and selections were 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 were accepted as poster papers for the Posters program. The open Call for Track Proposals and after prescreening the proposals, 46 Tracks were finally accepted for SAC 2019. The prescreening and selections were 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 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 presentation. 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 Automation 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...

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 Ziegelmeyer, 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: Phoenix**

(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
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

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
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

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

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

ANATOMIE: 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

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

TOWARDS AUTOMATED NETWORK MITIGATION ANALYSIS
Michael Backes, Joerg Hoffmann, Robert Künne, 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

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 ALSCC 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: Phoenix
(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 Brasilheiro 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 Garcia-Garcia, George Mavrommatis, Michael Vassilakopoulos, Antonio Corral and Luis Iribarne

TOWARD RDB TO NOSQL: TRANSFORMING DATA WITH METAMORFOSE FRAMEWORK
Wednesday April 10, 2019

**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 Andréao

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

**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

**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, Vinicius 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

**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

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

A COMPUTATIONALLY EFFICIENT MULTIMODAL 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, Lais 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

PLANNING WORKFLOW EXECUTIONS WHEN USING SPOT INSTANCES IN THE CLOUD
Richard Gil Martinez, Antonia Lopes and Luis 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
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 Stoffaletto Joao, Pavlos Falafios and Stefan Dietze

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

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

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
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

ON SIMPLIFYING CONGESTION WINDOW HANDLING FOR CMT-SCFP
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

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

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
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

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 Schoebertl, Benjamin Rouxel and Isabelle Puaut

ENERGY-DEMAND ESTIMATION OF EMBEDDED DEVICES USING DEEP ARTIFICIAL NEURAL NETWORKS
Timo Höning, 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

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 Mercurio, 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: Phoenix**

(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 Chibeir

**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

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
### 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

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>A ROBUST AND SECURE BACKUP SYSTEM FOR PROTECTING MALWARE</td>
<td>Myungjoon Shon, Heejin Kim and Jiman Hong</td>
</tr>
<tr>
<td>MY CLOUDY TIME MACHINE: A SCALABLE MICROSERVICE-BASED PLATFORM FOR</td>
<td>Darius-Florentin Neatu, Radu-Dumitru Stochitoiu, Andrei-Vlad Postoaca, Ion-Dorinel Filip and</td>
</tr>
<tr>
<td>DATA PROCESSING IN CLOUD-EDGE SYSTEMS</td>
<td>Florin Pop</td>
</tr>
<tr>
<td>MULTITHREADED DOUBLE QUEUING FOR BALANCED CPU-GPU MEMORY COPYING</td>
<td>Sanghun Cho, Jaewan Hong and Hwansoo Han</td>
</tr>
<tr>
<td>CACHE-AWARE BLOCK ALLOCATION FOR MEMORY-TECHNOLOGY STORAGE</td>
<td>Jaeheong Ahn, Choulseung Hyun, Donghee Lee and Sam H. Noh</td>
</tr>
</tbody>
</table>

**Thu 11:10 – 12:50**  
**Room: Megaron Beta**  
(WCN-1) Wireless Communications and Networking  
*Session Chair:* Dongkyun Kim, Kyungpook National University, South Korea

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENERGY-AWARE MEDIUM ACCESS CONTROL FOR ENERGY-HARVESTING MACHINE-TO-MACHINE NETWORKS</td>
<td>Dohyung Kim and YoungBae Ko</td>
</tr>
<tr>
<td>AN ADAPTIVE ENERGY EFFICIENT SCHEME FOR ENERGY CONSTRAINED WIRELESS</td>
<td>Bilal Jan, Haleem Farman, Murad Khan and Syed Hassan Ahmed</td>
</tr>
<tr>
<td>SENSOR NETWORKS</td>
<td></td>
</tr>
<tr>
<td>SOFTHE: SOFT HANDOVER MULTICRITERIA MECHANISM</td>
<td>Guilherme Oliveira, Carlos Storck and Fátima Duarte-Figueiredo</td>
</tr>
<tr>
<td>RELIABILITY OF ADS-B COMMUNICATIONS: NOVEL INSIGHTS BASED ON AN</td>
<td>Saeif Alhazbi, Savio Sciancalepore and Roberto Di Pietro</td>
</tr>
<tr>
<td>EXPERIMENTAL ASSESSMENT</td>
<td></td>
</tr>
</tbody>
</table>

**Thu 11:10 – 12:50**  
**Room: Megaron Gamma**  
(MLA-1) Machine Learning and its Applications  
*Session Chair:* TBA

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN ADAPTIVE FRAMEWORK FOR APPLYING MACHINE LEARNING IN SMART SPACES</td>
<td>Sachin Bhardwaj, Keon Myung Lee and Jee-Hyong Lee</td>
</tr>
<tr>
<td>CAUSALITY RELATIONSHIP AMONG ATTRIBUTES APPLIED IN AN EDUCATIONAL</td>
<td>Walisson Carvalho and Luis Zarate</td>
</tr>
<tr>
<td>DATA SET</td>
<td></td>
</tr>
<tr>
<td>EVOLVING MIMO MULTI-LAYERED ARTIFICIAL NEURAL NETWORKS USING</td>
<td>Qadeer Ahmad, Atif Rafiq, Muhammad Adil Raja and Noman Javed</td>
</tr>
<tr>
<td>GRAMMATICAL EVOLUTION</td>
<td></td>
</tr>
</tbody>
</table>
EXACT GAUSSIAN PROCESS REGRESSION WITH DISTRIBUTED COMPUTATIONS
Duc-Trung Nguyen, Maurizio Filippone and Pietro Michiardi

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

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

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

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

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

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
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

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

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

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

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
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 14:20 – 16:00
Room: Phoenix
(SWA-2) Semantic Web and Applications
Session Chair: Beyza Yaman, Infai/University of Leipzig, Germany

STANDARDS-DRIVEN METAMODEL TO INCREASE RETRIEVALABILITY 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
(CCNTV) 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

THU 14:00 – 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

THU 16:30 – 18:10
Room: Megaron Gamma
(MLA-3) Machine Learning and its Applications
Session Chair: TBA

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

POPULATION ANOMALY DETECTION THROUGH DEEP GAUSSIANIZATION
david tolpin

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

REAL-TIME BOTNET DETECTION USING NONNEGATIVE TUCKER DECOMPOSITION
Hideaki Kanehara, Yuma Murakami, Junpei 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: Phoenix
(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
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 METABOLICOMICS
Aliasghar Shahrajoohaghighi, 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 Shahrajoohaghighi and Craig McClain

Fri 9:00 – 10:40
Room: Phoenix
(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
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

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, Shehalika 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

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

A GENERIC TRACEABILITY METAMODEL FOR ENABLING UNITED END-TO-END TRACEABILITY IN SOFTWARE PRODUCT LINES
Phillipp 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: Phoenix
(CIVIA) Computational Intelligence and Video & Image Analysis
Session Chair: Agostinho Rosa, University of Lisbon, Portugal
(COMBI) Advances in Computational Biomedical Imaging
Session Chair: TBA

Fri 11:10 – 12:50
Room: Phoenix
(CIVIA) Computational Intelligence and Video & Image Analysis
Session Chair: Agostinho Rosa, University of Lisbon, Portugal
(COMBI) Advances in Computational Biomedical Imaging
Session Chair: TBA

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

Fri 14:20 – 16:25
Room: Megaron Alpha
(CC-2) Cloud Computing
Session Chair: TBA

Fri 14:20 – 16:25
Room: Megaron Alpha
(CC-2) Cloud Computing
Session Chair: TBA

Fri 14:20 – 16:25
Room: Megaron Beta
(HI) Health Informatics
Session Chair: Anu Mary Chacko, National Institute of Technology, Calicut, India

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

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, Vinicius 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

(ER) 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

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

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

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

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

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

(NE) TOWARDS A REQUIREMENTS LANGUAGE FOR MODELING EMOTION IN VIDEOGAMES
Joao Araujo, Ana Moreira and Gonçalo Miguéis

(NE) 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 MariaAndreia 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-Ru, 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, Bongjia 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 Wuys, Ivo Emanuelov, 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)
<table>
<thead>
<tr>
<th>Track</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>(KLP)</td>
<td>LOOKING INTO THE PAST: EVALUATING THE EFFECT OF TIME GAPS IN A PERSONALIZED SENTIMENT MODEL</td>
<td>Siwen Guo, Sviatlana Höhn and Christoph Schommer</td>
</tr>
<tr>
<td>(KLP)</td>
<td>OVERWHELMED BY NEGATIVE EMOTIONS? MAYBE YOU ARE BEING CYBER-BULLIED!</td>
<td>Pinar Arslan, Michele Corazza, Elena Cabrio and Serena Villata</td>
</tr>
<tr>
<td>(KRR)</td>
<td>HYBRID TEMPORAL SITUATION CALCULUS</td>
<td>Vitaliy Batusov, Giuseppe De Giacomo and Mikhail Soutchanski</td>
</tr>
<tr>
<td>(MLA)</td>
<td>AN EFFICIENT DEEP LEARNING PLATFORM FOR DETECTING OBJECTS</td>
<td>Hansol Lee, Younggwon Kim and Jiman Hong</td>
</tr>
<tr>
<td>(MLA)</td>
<td>MACHINE LEARNING BASED REAL-TIME VEHICLE DATA ANALYSIS FOR SAFE DRIVING MODELING</td>
<td>Pamul Yadav, Dhananjay Singh and Sangsu Jung</td>
</tr>
<tr>
<td>(MLA)</td>
<td>MULTIPLE PERSPECTIVES HMM-BASED FEATURE ENGINEERING FOR CREDIT CARD FRAUD DETECTION</td>
<td>Yvan Lucas, Pèrre-Edouard Portier, Léa Laporte, Sylvie Calabretto, Olivier Caeles, Liyun He--Guelton and Michael Granitzer</td>
</tr>
<tr>
<td>(MLA)</td>
<td>TOWARD A CONTINUOUS AUTHENTICATION SYSTEM USING, A BIOLOGICALLY INSPIRED MACHINE LEARNING APPROACH: A CASE STUDY</td>
<td>Obada Zoubi and Mariette Awad</td>
</tr>
<tr>
<td>(CC)</td>
<td>PERFORMANCE OVERHEAD OF CONTAINER ORCHESTRATION FRAMES FOR MANAGEMENT OF MULTI-TENANT DATABASE DEPLOYMENTS</td>
<td>Eddy Truyen, Dimitri van Landuyt, Bert Lagaisse and Wouter Joosen</td>
</tr>
<tr>
<td>(CC)</td>
<td>DIABETES CARE IN CLOUD - RESEARCH CHALLENGES</td>
<td>Merlin George, Dr. Anu Mary Chacko, Dr. Sudeep Koshy Kurien and Dr. Naseer Ali</td>
</tr>
<tr>
<td>(CCNIV)</td>
<td>EXPLOITING AUTOMATED PLANNING FOR EFFICIENT CENTRALIZED VEHICLE ROUTING AND MITIGATING CONGESTION IN URBAN ROAD NETWORKS</td>
<td>Lukas Chrpa, Mauro Vallati and Simon Parkinson</td>
</tr>
<tr>
<td>(DADS)</td>
<td>DISTRIBUTED STORAGE SYSTEM BASED ON PERMISSIONED BLOCKCHAIN</td>
<td>Racin Nygaard, Hein Meling and Leander Jehl</td>
</tr>
<tr>
<td>(DADS)</td>
<td>IS IT SAFE TO DOCKERIZE MY DATABASE BENCHMARK?</td>
<td>Martin Grambow, Jonathan Hasenburg and David Bermbach</td>
</tr>
<tr>
<td>(DAPP)</td>
<td>PROCESS TRACEABILITY IN DISTRIBUTED MANUFACTURING USING BLOCKCHAINS</td>
<td>Sebastian Geiger, Daniel Schall, Sebastian Meixner and Andreas Egger</td>
</tr>
<tr>
<td>(MDIOS)</td>
<td>A MODEL-DRIVEN WORKFLOW FOR DISTRIBUTED MICROSERVICE DEVELOPMENT</td>
<td>Florian Rademacher, Jonas Sorgalla, Sabine Sachweh and Albert Zündorf</td>
</tr>
<tr>
<td>(DBDM)</td>
<td>A SCALABLE AND PERSISTENT KEY-VALUE STORE USING NON-VOLATILE MEMORY</td>
<td>Doyoung Kim, Won Gi Choi, Hanseung Sung and Sanghyun Park</td>
</tr>
<tr>
<td>(DBDM)</td>
<td>THE SIMILARQL FRAMEWORK: SIMILARITY QUERIES IN PLAIN SQL</td>
<td>Caetano Traina Jr., Agma Traina, Robson Cordeiro, Cristina Ciferry, Guilherme Rocha and Andre Moriyama</td>
</tr>
<tr>
<td>(DM)</td>
<td>K-MIXED PROTOTYPES: A CLUSTERING ALGORITHM FOR RELATIONAL DATA WITH MIXED ATTRIBUTE TYPES</td>
<td>Rahmah Brnawy and Nematollah Shiri</td>
</tr>
<tr>
<td>(DM)</td>
<td>MINING PRODUCT OPINIONS WITH MOST FREQUENT CLUSTERS OF ASPECT TERMS</td>
<td>Chukwuma Ejieh, Christie Ezeife and Ritu Chaturvedi</td>
</tr>
<tr>
<td>(DS)</td>
<td>DECISION TREE-BASED FEATURE RANKING IN CONCEPT DRIFTING DATA STREAMS</td>
<td>Jean Antonio Pereira Karax, Andrea Malucelli and Jean Paul Barddal</td>
</tr>
<tr>
<td>(DS)</td>
<td>STREAMING PIECEWISE LINEAR APPROXIMATION FOR EFFICIENT DATA MANAGEMENT IN EDGE COMPUTING</td>
<td>Romaric Duvgignau, Vincenzo Gulisano, Marina Papatriantafilou and Vladimir Savic</td>
</tr>
</tbody>
</table>
(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  
Jooihong 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 Mezzzanica, Vincenzo Moscati 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 Shahrriar, 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

Please check the registration desk for handouts and a poster or visit SAC 2020 website at http://www.acm.org/conferences/sac/sac2020/

End of Program