2015 IEEE/WIC/ACM International Joint Conference on
Web Intelligence
and
Intelligent Agent Technology
6-9 December 2015
Singapore

http://wi-iat15.ntulily.org
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsors</td>
<td>3</td>
</tr>
<tr>
<td>Welcome Message from Program Chairs</td>
<td>6</td>
</tr>
<tr>
<td>Welcome Message from Workshop Chairs</td>
<td>8</td>
</tr>
<tr>
<td>Welcome Message from Demo/Poster Chairs</td>
<td>10</td>
</tr>
<tr>
<td>Advisory/Steering Committees</td>
<td>11</td>
</tr>
<tr>
<td>Organizing Committee</td>
<td>12</td>
</tr>
<tr>
<td>WI 2015 Program Committee</td>
<td>14</td>
</tr>
<tr>
<td>IAT 2015 Program Committee</td>
<td>17</td>
</tr>
<tr>
<td>Program At A Glance</td>
<td>20</td>
</tr>
<tr>
<td>Keynotes</td>
<td>25</td>
</tr>
<tr>
<td>WI-IAT 2015 Panel on Big Data in Global Brain and Social Networks</td>
<td>33</td>
</tr>
<tr>
<td>WI-IAT 2015 Workshops</td>
<td>34</td>
</tr>
<tr>
<td>WI-IAT 2015 Tutorials</td>
<td>41</td>
</tr>
<tr>
<td>WI-IAT 2015 Demo and Posters</td>
<td>45</td>
</tr>
<tr>
<td>WI 2015 Program</td>
<td>46</td>
</tr>
<tr>
<td>IAT 2015 Program</td>
<td>60</td>
</tr>
<tr>
<td>Social Events</td>
<td>68</td>
</tr>
<tr>
<td>The Conference Venue</td>
<td>70</td>
</tr>
<tr>
<td>SMU Vicinity Map</td>
<td>71</td>
</tr>
<tr>
<td>Local Information</td>
<td>73</td>
</tr>
<tr>
<td>Disclaimer</td>
<td>75</td>
</tr>
</tbody>
</table>
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Welcome Message from General Chairs

On behalf of the WIC Steering Committee and WI-IAT 2015 organizing committee, we warmly welcome you to the 2015 IEEE/WIC/ACM International Joint Conference on Web Intelligence (WI’15) and Intelligent Agent Technology (IAT’15).

WI and IAT are the two important technical events in the fields of World Wide Web and intelligent systems. Following the great successes of WI-IAT’01 held in Maebashi, Japan, WI-IAT’03 in Halifax, Canada, WI-IAT’04 in Beijing, China, WI-IAT’05 in Compiegne, France, WI-IAT’06 in Hong Kong, WI-IAT’07 in Silicon-Valley, USA, WI-IAT’08 in Sydney, Australia, WI-IAT’09 in Milano, Italy, WI-IAT’10 in Toronto, Canada, WI-IAT’11 in Lyon, France, WI-IAT’12 in Macau, China, WI-IAT’13 in Atlanta, USA, and WI-IAT’14 in Warsaw, Poland, this is the first time the two co-located events are held in Singapore from 6 to 9 December 2015.

WI-IAT’15 will provide a global forum for scientists, engineers and educators to present the latest WI-IAT technologies and to discuss future intelligent systems for complex applications. WI-IAT’15 has an impressive lineup of world renowned keynote speakers, including Joseph Sifakis (Turing Award 2007), Francis Heylighen, Steven E. Koonin, Sarit Kraus, Gee-Wah Ng, and Dominik Slezak. In addition to regular technical sessions, WI-IAT boasts seven collocated workshops on special topics of interest, three tutorials given by experts in the respective fields, four special sessions on emerging research areas, a new demonstration and poster track, and an expert panel on the conference theme of Big Data in Global Brain and Social Networks.

WI-IAT’15 will be held at the Singapore Management University (SMU) campus, which is surrounded by many interesting places and attractions, including museums, theatres, cafes, restaurants, shopping malls, and education institutes in downtown Singapore. WI-IAT’15 will offer ample opportunities for delegates to interact and connect, including a welcome reception on 6 December 2015 at the SMU Library, daily luncheons, morning and afternoon coffee breaks, and a conference banquet on 8 December 2015. As a highlight, our social events further include an offsite visit to the Gardens by the Bay,
arguably the Singapore’s jewel of the crown, followed by a cocktail reception cum conference banquet at Marina Bay Sands in Singapore.

The success of a conference cannot come without the support and hard work of many dedicated individuals. We have many people to thank for their generous contributions, in particular, the WI Steering Committee Chairs Ning Zhong and Jiming Liu for their continual support and guidance as well as IEEE Computer Society Technical Committee on Intelligent Informatics (TCII) Chair Chengqi Zhang for his leadership and support to the event. We also thank Singapore Management University for providing the conference venue, IEEE CS TCII for sponsoring best paper awards, and DataSpark for being our Gold Sponsor.

We also wish to acknowledge the members of our conference organizing committee, who have worked relentlessly to take care of all necessary administrative, publicity and logistic arrangement for our technical as well as social programs. Special acknowledgement goes to our CyberChair and Finance Chair Juzhen Dong for providing administrative and technical support to the CyberChair system and keeping our budget in balance. The last but not the least, we thank Lisa O’Conner for editing and producing the conference proceedings.

Singapore is a modern cosmopolitan city, with sparking new development as well as a rich and diverse culture. Besides attending the conference, WI-IAT’15 delegates will find a whole lot to see and do in Singapore. We hope that WI-IAT’15 will be a memorable event for all delegates. We welcome you to explore and enjoy the city state and wish you a wonderful time in Singapore.

Ah-Hwee Tan (Nanyang Technological University)
Yuefeng Li (Queensland University of Technology)
WI-IAT 2015 General Chairs
Welcome Message from Program Chairs

Welcome to the 2015 IEEE/WIC/ACM International Joint Conference on Web Intelligence (WI’15) and Intelligent Agent Technology (IAT’15)!

Following the past tradition, WI’15 and IAT’15 are collocated this year again but first time in Singapore. Both conferences are sponsored by the IEEE Computer Society, Web Intelligence Consortium (WIC), Association for Computing Machinery (ACM), and the Memetic Computing Society. The two conferences are hosted by the Joint NTU-UBC Research Centre of Excellence in Active Living for the Elderly (LILY) at Nanyang Technological University (NTU) and the Living Analytics Research Centre at Singapore Management University (SMU).

“Big Data in Global Brain and Social Networks” is the theme of WI and IAT this year. WI-IAT’15 is proud to feature a slew of joint keynotes on relevant topics by distinguished speakers, including Joseph Sifakis (Turing Award 2007), Francis Heylighen, Steven Koonin, Sarit Kraus, Gee-Wah Ng, and Dominik Slezak. In addition, WI-IAT’15 boasts an extensive program line-up of three tutorials provided by experts in the fields, seven associated workshops on special topics of interests, and a new special demonstration and poster track. WI-IAT’15 has also created four special sessions to attract papers addressing emerging research topics, namely Special Session on Quality of User Generated Content, Special Session on Multi-Agent Systems for Big Data, Special Session on Agents in Urban Computing and Engineering, and Special Session on Artificial Intelligence for Aging In-Place.

WI’15 and IAT’15 received 173 and 122 paper submissions respectively, each of which has been reviewed by at least two reviewers on the basis of theoretical originality, technical quality, relevance, originality, significance, and clarity. Following a rigorous review and selection process, WI’15 finally selected 43 full papers and 49 short papers for oral presentation and publication. This corresponds to acceptance rates of 24.9% for full papers and 28.3% for short papers. IAT’15 selected 34 full papers and 30 short papers for oral presentation and publication. This corresponds to acceptance rates of 27.8% for full papers and 24.5% for short papers.
We also take this opportunity to thank our distinguished keynote speakers for accepting our invitations, the paper authors for submitting papers to WI-IAT’15, tutorial speakers for sharing their expert knowledge, workshop and special session organizers for promoting and organizing the workshops and special sessions, and our program committee for getting the reviews completed on time during their busy schedules and putting together an excellent technical program.

Finally, we hope all WI-IAT’15 participants will enjoy the above program line-up as well as the local hospitality.

Thank you.

**Ee-Peng Lim** *(Singapore Management University, Singapore)*

WI-IAT 2015 Program Chair

**Jie Zhang** *(Nanyang Technological University, Singapore)*

**Dell Zhang** *(University of London, UK)*

**Julita Vassileva** *(University of Saskatchewan, USA)*

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**Anita Raja** *(University of North Carolina at Charlotte, USA)*

**Sarvapali Ramchurn** *(Southampton University, UK)*

IAT 2015 Program Co-Chairs
Welcome Message from Workshop Chairs

The WI-IAT 2015 workshops aim to provide researchers who share similar research interests to meet and address new research challenges and initiatives that concern Web Intelligence (WI) and Intelligent Agent Technology (IAT). The Workshops provide a venue and forum for contributions in specialized sub-areas of Web Intelligence and Intelligent Agent Technology, and allow authors to present new and emerging trends in methods and technologies to dedicated audiences.

The workshops included in the WI-IAT’15 edition are as follows:

- The Third International Workshop on Data Oriented Constructive Mining and the Seventh International Workshop on Emergent Intelligence Networked Agents (DOCMAS/WEIN),
- International Workshop on Complex Methods for Data and Web Mining (CMDWM),
- The Fourth International Workshop on Web Personalization, Recommender Systems and Social Media (WPRSM),
- The International Workshop on Knowledge Management of Web Social Media (KMWSM),
- The Sixth International Workshop on Intelligent E-government and Emergency Management (EGOVEM),
- The Eighth International Workshop on Natural Language Processing on Ontology Engineering (NLPOE), and

The organizers received a total of ten workshop proposals for WI-IAT’15, out of which nine were accepted, representing a variety of selected special topics. Two of the nine accepted workshops were canceled subsequently. The workshops received 113 submissions in total, including the papers transferred from the main conferences. The acceptance rate for published papers is approximately 50%. Each paper submitted to the workshops went through a rigorous review process and the workshop organizers selected papers for
inclusion in the workshop proceedings and presentation at their respective workshops. This decision process ensures that the workshop proceedings gather high quality papers in emerging research areas.

We express our sincere gratitude to the workshop organizers. Their professionalism and hard work made our tasks much easier. We also appreciate the guidance and suggestions we received from several members of the WI-IAT organization and steering committee, especially Ah-Hwee Tan, Ee-Peng Lim, and Ning Zhong.

We are also grateful to Juzhen Dong for her excellent technical assistance in ensuring smooth functioning of the paper management system. Finally, we thank all authors for their submissions and all attendees for their participation. To have stimulating and thought provoking workshops would not be possible without their support.

Einoshin Suzuki (Kyushu University, Japan)
Bryan Kian Hsiang Low (National University of Singapore, Singapore)
Jason Watson (Queensland University of Technology, Australia)

WI-IAT 2015 Workshop Chairs
Welcome Message from Demo/Poster Chairs

The Demo and Poster sessions of The 2015 IEEE/WIC/ACM International Conference on Web Intelligence and 2015 IEEE/WIC/ACM International Conference on Intelligent Agent Technology (WI-IAT 2015) aim to provide opportunities for participants from academia and/or industry to present and demonstrate their new and innovative research work and/or their latest developments in the areas of WI-AIT 2015. It gives conference participants a forum where they can learn about novel on-going research projects that might not yet be complete, but whose preliminary results are already in an interesting phase. It also provides demo/poster presenters with an excellent opportunity to receive invaluable feedback from knowledgeable sources as well as chance to interact with industry people that have similar fields of research. Each paper submitted to the demo/poster sessions was reviewed by at least two program committee members based on originality, significance, quality, and clarity.

Special thanks go to all members of the Program Committee as well as to Ah-Hwee Tan and Juzhen Dong for their help and technical assistance. Finally, we hope that the Demo/Poster papers will provide you with new inspirations for your research and with opportunities for partnerships with other research groups and industrial participants.

Zhiqi Shen (Nanyang Technological University, Singapore)
Yiqiang Chen (Chinese Academy of Science, China)
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### Day 1, December 6, 2015

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*(Foyer, SOA Level 2, SMU)*

<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
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<td>18:00</td>
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<tr>
<td>09:00</td>
<td>10:00</td>
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</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>10:00</td>
<td>10:30</td>
<td>Morning Break</td>
</tr>
<tr>
<td></td>
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<tr>
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</tr>
<tr>
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<tr>
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<tr>
<td>12:30</td>
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<td>Lunch</td>
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<td></td>
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</tr>
<tr>
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<td><em>(Foyer, SOA Level 2 and Level 3, SMU)</em></td>
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<tr>
<td>16:00</td>
<td>18:00</td>
<td>Workshop WS1</td>
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<td>DOCMAS/WEIN</td>
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<td>Workshop WS2</td>
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<td>Workshop WS3</td>
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<td>WPRSM</td>
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<td>18:00</td>
<td>21:00</td>
<td>Welcome Reception</td>
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<td><em>(Li Ka Shing Library, Level 5, SMU)</em></td>
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**End of Day 1**
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<tr>
<th>Time</th>
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<tr>
<td>08:15</td>
<td>Registration (Foyer, SOA Level 2, SMU)</td>
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<tr>
<td>08:45</td>
<td>Conference Opening (Ngee Ann Kongsi Auditorium, SOA Level 2, SMU)</td>
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<tr>
<td>09:00</td>
<td>Opening Keynote – Joseph Sifakis (Ngee Ann Kongsi Auditorium, SOA Level 2, SMU)</td>
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<tr>
<td>10:00-10:30</td>
<td>Demo/Poster and Morning Break (Foyer, SOA Level 1 and Level 2, SMU)</td>
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<tr>
<td>10:30-12:30</td>
<td>WI–MS1 Web Mining and Warehousing I (Seminar Room 2-1, SOA Level 2)</td>
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<td>WI–MS2 Semantic Aspects of Web Intelligence I (Seminar Room 2-2, SOA Level 2)</td>
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<td></td>
<td>WI–MS3 Web Intelligence Foundations (Seminar Room 2-3, SOA Level 2)</td>
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<td>IAT–MS1 Autonomy-Oriented Computing (Seminar Room 2-4, SOA Level 2)</td>
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<td></td>
<td>IAT–MS2 Agent and Multi-Agent Systems Modeling (Seminar Room 2-5, SOA Level 2)</td>
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<tr>
<td>12:30-13:30</td>
<td>Lunch (Foyer, SOA Level 2, SMU)</td>
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<tr>
<td>13:30-14:30</td>
<td>Keynote – Steven Koonin</td>
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<tr>
<td>14:30-15:30</td>
<td>Keynote – Sarit Kraus (Ngee Ann Kongsi Auditorium, SOA Level 2, SMU)</td>
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<tr>
<td>15:30-16:00</td>
<td>Demo/Poster and Afternoon Break (Foyer, SOA Level 1 and Level 2, SMU)</td>
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<tr>
<td>16:00-18:00</td>
<td>WI–MS4 Web Mining and Warehousing II (Seminar Room 2-1, SOA Level 2)</td>
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<td>WI–MS5 Semantic Aspects of Web Intelligence II (Seminar Room 2-2, SOA Level 2)</td>
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<td>IAT–MS3 Coordination (Seminar Room 2-4, SOA Level 2)</td>
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<td>IAT–MS4 Agent and Multi-Agent Systems Engineering I (Seminar Room 2-5, SOA Level 2)</td>
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<td>08:30</td>
<td>Registration</td>
<td>Foyer, SOA Level 2, SMU</td>
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<tr>
<td>09:00</td>
<td>Keynote – Francis Heylighen</td>
<td>Ngee Ann Kongsi Auditorium, SOA Level 2, SMU</td>
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<tr>
<td>10:00</td>
<td>Morning Break</td>
<td>Foyer, SOA Level 2, SMU</td>
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<tr>
<td>10:30</td>
<td>WI–TS1 Web Mining and Warehousing III and Intelligent Human-Web Interaction</td>
<td>Seminar Room 2-1, SOA Level 2</td>
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<td>WI–TS2 Special Session: Multi-Agent Systems for Big Data and Quality of User Generated Content</td>
<td>Seminar Room 2-2, SOA Level 2</td>
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<td>IAT–TS1 Autonomous Auctions and Negotiation</td>
<td>Seminar Room 2-3, SOA Level 2</td>
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<td>IAT–TS2 Agent and Multi-Agent Systems Engineering</td>
<td>Seminar Room 2-4, SOA Level 2</td>
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<tr>
<td>12:30</td>
<td>Lunch</td>
<td>Foyer, SOA Level 2, SMU</td>
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<tr>
<td>13:30</td>
<td>Panel Session – Big Data in Global Brain and Social Networks</td>
<td>Ngee Ann Kongsi Auditorium, SOA Level 2, SMU</td>
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<td>15:30</td>
<td>Afternoon Break</td>
<td>Foyer, SOA Level 2, SMU</td>
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<tr>
<td>16:00</td>
<td>Social Outing</td>
<td>Gardens by the Bay, 18 Marina Gardens Dr</td>
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<tr>
<td>18:30</td>
<td>Cocktail Reception and Banquet</td>
<td>Orchid Bay View Foyer/Orchid Junior Room, Level 4, Sands Expo and Convention Centre</td>
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<tr>
<td>09:00</td>
<td>Keynote – Dominik Slezak</td>
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<td>10:30</td>
<td>WI–WS1 Social Networks and Ubiquitous Intelligence I</td>
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<td>10:30</td>
<td>WI–WS2 Web Search &amp; Recommendation I</td>
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<td>WI–WS3 Web Intelligence Applications</td>
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<td>10:30</td>
<td>IAT–WS1 Distributed Problem Solving</td>
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<tr>
<td>13:00</td>
<td>Keynote – Gee-Wah Ng</td>
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<td>(Foyer, SOA Level 2, SMU)</td>
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<tr>
<td>15:00</td>
<td>WI–WS4 Social Networks and Ubiquitous Intelligence II</td>
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<td>(Seminar Rm 2-1, SOA Level 2)</td>
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<td>15:00</td>
<td>WI–WS5 Web Search &amp; Recommendation II</td>
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<td>(Seminar Rm 2-2, SOA Level 2)</td>
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<td>15:00</td>
<td>IAT–WS2 Special Session: Agents in Urban Computing and Engineering</td>
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<td>15:00</td>
<td>IAT–WS3 Special Session: Agents for Aging in-Place</td>
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<td>(Seminar Rm 2-4, SOA Level 2)</td>
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End of Conference
Floor Plan of Conference Venue

School of Accountancy / School of Law - 2nd Floor

School of Accountancy / School of Law - 3rd Floor
Keynote

JOSEPH SIFAKIS (Turing Award 2007)
Professor at EPFL, Switzerland
Director of CRI in Grenoble, France

The Internet of Things – The Ultimate ICT Revolution
Session Chair: Yuefeng Li, Queensland University of Technology

Abstract: The Internet of Things (IoT) is a vision born from the convergence between embedded systems, networks and intelligent systems. Reaching this vision challenges our capacity to design systems that are trustworthy and optimal. We advocate the need for rigorous system design techniques. We present the current state of the art and discuss three major scientific challenges: 1) linking physicality and computation, to study cyber-physical systems of collaborating computational elements controlling physical entities; 2) component-based systems engineering, in particular as the ability to build correct-by-construction systems from verified components; 3) intelligence, in particular as the ability of system adaptation in order to meet given requirements in the presence of uncertainty. Realizing the IoT vision will have a tremendous societal, technological and scientific impact. In particular, it will reinvigorate research in Computing and enrich the discipline with new scientific foundations.

Biography

Joseph Sifakis is full professor at Ecole Polytechnique Fédérale de Lausanne (EPFL) and the director of “Centre de Recherche Intégrative” (CRI) in Grenoble. His current research interests cover fundamental and applied aspects of embedded systems design. The main focus of his work is on the formalization of system design as a process leading from given requirements to trustworthy and optimized correct-by-construction implementations. Joseph Sifakis is the founder of the Verimag laboratory in Grenoble, which he directed for 13 years. In 2007, he has received the Turing Award for his contribution to the theory and application of model checking, the most widely used system verification technique today. Joseph Sifakis is a member of the French Academy of Sciences, a member of the French National Academy of Engineering and a member of Academia Europea. He is a Grand Officer of the French National Order of Merit, a Commander of the French Legion of Honor. He has received the Leonardo da Vinci Medal in 2012.
Keynote

STEVEN KOONIN
Director, Center for Urban Science and Progress
New York University, USA

Adventures in Urban Informatics
Session Chair: Ee-Peng Lim, Singapore Management University

Abstract: For the first time in history, more than half of the world's population lives in urban areas; in just a few more decades, the world's population will exceed 9 billion, 70 percent of whom will live in cities. Enabling those cities to deliver services effectively, efficiently, and sustainably while keeping their citizens safe, healthy, prosperous, and well-informed will be among the most important undertakings in this century. I will review how we are establishing a center for urban science and focus on bringing informatics to the study and operation of urban systems. I will touch on the rational, the structure, and the substance of the Center’s work and the ways in which it will enrich NYC and contribute to global issues. Taxis, lights, sewers, phones, and buildings will all enter into the discussion in novel ways.

Biography

Steven E. Koonin was appointed as the founding Director of NYU’s Center for Urban Science and Progress in April 2012. That consortium of academic, corporate, and government partners will pursue research and education activities to develop and demonstrate informatics technologies for urban problems in the “living laboratory” of New York City. He previously served as the U.S. Department of Energy’s second Senate-confirmed Under Secretary for Science from May 19, 2009 through November 18, 2011. As the Chief Scientist at BP from 2004 to early 2009, Dr. Koonin developed the long-range technology strategy for alternative and renewable energy sources. Steve joined the California Institute of Technology’s faculty in 1975, was a research fellow at the Niels Bohr Institute during 1976-1977, and was an Alfred P. Sloan Foundation Fellow during 1977-1979. He became a professor of theoretical physics at Caltech in 1981 and served as Chairman of the Faculty from 1989-1991. Dr. Koonin was the seventh provost of Caltech from 1995-2004. In that capacity, he was involved in identifying and recruiting 1/3 of the Institute’s professorial faculty and left an enduring legacy of academic and research initiatives in the biological, physical, earth, and social sciences, as well as the planning and development of the Thirty-Meter Telescope project.
Abstract: Automated agents that interact proficiently with people can be useful in supporting or replacing people in complex tasks. The inclusion of people presents novel problems for the design of automated agents’ strategies. People do not necessarily adhere to the optimal, monolithic strategies that can be derived analytically. Their behavior is affected by a multitude of social and psychological factors. In this talk I will show how combining machine learning techniques for human modeling, human behavioral models, formal decision-making and game theory approaches enables agents to interact well with people. Applications include intelligent agents that help drivers reduce energy consumption, agents that support rehabilitation, employer-employee negotiation and agents that support a human operator in managing a team of low-cost mobile robots in search and rescue tasks.

Biography

Sarit Kraus (Ph.D. Computer Science, Hebrew University, 1989) is a Professor of Computer Science at Bar-Ilan University and an Adjunct Professor at the University of Maryland. Her research is focused on intelligent agents and multi-agent systems (including people and robots). She has also contributed to the research on homeland security, adversarial patrolling, social networks and nonmonotonic reasoning. Kraus was awarded the IJCAI Computers and Thought Award, the ACM SIGART Agents Research award, the EMET prize and was twice the winner of the IFAAMAS influential paper award. She is an ACM, AAAI and ECCAI fellow and a recipient of the advanced ERC grant. She also received a special commendation from the city of Los Angeles, together with Prof. Tambe, Prof. Ordonez and their USC students, for the creation of the ARMOR security scheduling system. She has published over 350 papers in leading journals and major conferences. She is the author of the book “Strategic Negotiation in Multiagent Environments” (2001) and a co-author of the books “Heterogeneous Active Agents” (2000) and “Principles of Automated Negotiation” (2014). Kraus is a senior associate editor of the Annals of Mathematics and Artificial Intelligence Journal and an associate editor of the Journal of Autonomous Agents and Multi-Agent Systems. She is a member of the board of directors of the International Foundation for Multi-agent Systems (IFAAMAS).
Abstract: Distributed intelligence is an ability to solve problems and process information that is not localized inside a single person or computer, but that emerges from the coordinated interactions between a large number of people and their technological extensions. The Internet and in particular the World-Wide Web form a nearly ideal substrate for the emergence of a distributed intelligence that spans the planet, integrating the knowledge, skills and intuitions of billions of people supported by billions of information-processing devices. This intelligence becomes increasingly powerful through a process of self-organization in which people and devices selectively reinforce useful links, while rejecting useless ones. This process can be modeled mathematically and computationally by representing individuals and devices as agents, connected by a weighted directed network along which "challenges" propagate. Challenges represent problems, opportunities or questions that must be processed by the agents to extract benefits and avoid penalties. Link weights are increased whenever agents extract benefit from the challenges propagated along it. My research group is developing such a large-scale simulation environment in order to better understand how the web may boost our collective intelligence. The anticipated outcome of that process is a "global brain", i.e. a nervous system for the planet that would be able to tackle both global and personal problems.

Biography

Francis Heylighen received his PhD in theoretical physics in 1987 from the Free University of Brussels (VUB). After his PostDoc there he become first a Senior Research Associate, then a research professor. He then created the Evolution, Complexity and Cognition research group and the Global Brain Institute, which he both directs. The main focus of his research is the evolution of complexity: how do higher forms of organization originate and develop? How do systems self-organize, adapt and achieve some form of cognition? He has worked in particular on the development of collective intelligence or distributed cognition, and its application to
the emerging "global brain". His work has received a wide international recognition from peers, students and the general public. This is shown by such indicators as his H-index (40), the number of citations of his work (over 5000) in the Google Scholar database of academic publications, and appearances in the national and international media. He is a Fellow of the World Academy of Art and Science, member of the Global Agenda Councils of the World Economic Forum, and his biography has been listed in Who's Who in the World, Wikipedia, and other international directories.
Abstract: Data exploration is a general term for a variety of methods aiming at data extraction and processing for the purposes of, e.g. advanced reporting and decision support. In particular, data exploration is in the heart of web analytics applications, where the process of constructing web-related data models goes in pair with investigating relations and trends over attributes of entities stored in those models. Similarly, data exploration plays an important role in fields such as internet of things, enterprise analytics, risk management or knowledge discovery from biomedical and multimedia data sets. The essential feature of data exploration tools is to make it possible for users to interact with data. Only humans can specify exploration goals which can change based on results obtained so far. With that in regard, there is an ongoing research on how to decompose the workflows of complex data mining processes onto smaller pieces whose outcomes can be iteratively browsed by users. Another related challenge is to produce those outcomes sufficiently fast to keep the users engaged and to translate their feedback into parameters of algorithms utilized at further stages of the process. People interested in web intelligence will be quick to draw a parallel between the above aspects of interactive data exploration and the state-of-the-art techniques in a field of interactive search. On the one hand, a search space (a space of all searched entities versus a space of all data models and patterns) and a user profile (end-users of search systems versus data scientists and data modelling specialists) are quite different. However, on the other hand, the idea of presenting to the users examples or drafts of results and asking them to share their preferences remains analogous. As an illustration, a rough-set-based framework aiming at interactive attribute selection is discussed. This framework is designed to visually assist users in browsing through a realm of possible subsets of attributes. Moreover, it utilizes information about users’ actions to refine the attribute extraction process. It will also be shown how to modify this method to support a new interactive environment which facilitates a kind of faceted search. Hopefully, this example can be regarded as an additional confirmation that interactive data exploration and interactive search have quite a lot in common.
**Biography**

Dominik Ślęzak received Ph.D. in 2002 from University of Warsaw and D.Sc. in 2011 from Polish Academy of Sciences. In 2005 he co-founded Infobright Inc., where he holds position of chief scientist. He is also associate professor at Faculty of Mathematics, Informatics and Mechanics at University of Warsaw. He used to work as assistant professor at University of Regina and in Polish-Japanese Institute of Information Technology. He delivered invited talks at over 20 international conferences. He co-edited over 20 books and volumes of conference proceedings. He is co-author of over 150 papers and co-inventor in 5 granted US patents. He serves as associate editor for several scientific journals including Intelligent Information Systems and Information Sciences. In 2014 he served as general program chair of IEEE/WIC/ACM Web Intelligence Congress in Warsaw. In 2012-2014 he served as president of International Rough Set Society. Currently, he serves as co-director of Polish National Centre for Research and Development grant PBS2/B9/20/2013 aiming at developing an integrated decision support framework for systems that monitor processes, devices and hazards.
Keynote

GEE-WAH NG
Programme Director, DSO National Laboratories
Singapore

Exploitation of information
Session Chair: Ah-Hwee Tan, Nanyang Technological University

Abstract: The talk will cover the various research works in the area of exploiting information to achieve intelligence. These include unstructured text and image processing, video scene understanding and perception, brain-inspired computing, track before detection of target, multiple sources fusion, small data analytics, multi-modality entity resolution, and spatial and temporal reasoning. Key technical challenges and their potential applications will be presented.

Biography

Gee Wah NG received his M.Sc. and Ph.D. degrees from University of Manchester Institute of Science and Technology (UMIST), United Kingdom, in 1993 and 1996, respectively, in Electronics and Electrical Engineering. He joins DSO National Laboratories in 1997. Currently he is a Distinguished Member of Technical Staff and Program Director for Information Exploitation Program at DSO National Laboratories. He was awarded the Defense Technology Prize in 2002, 2005, 2011. In 2006 and 2007, he was a Research Associate in MIT and Visiting Scholar in Boston University, Boston, USA. His research at Boston University and MIT is on computational cognitive system. Since 2009 till now, he is an Adjunct Associate Professor in National University of Singapore, Engineering Science Program. Gee Wah NG has been active in the fusion community since 1998. From 2003 to 2006, he was in program committee of the conference on Multisensor, Multisource Information Fusion: Architecture and Applications, USA Orlando, SPIE Defense and Security Symposium. Since 2003, he was involved in the technical program committee of The International Conference on Information Fusion and in the technical program committee of The IEEE International Conference on Cybernetics and Intelligent Systems. He was also the Special Issue Editor on High-level Information Fusion and Situation Awareness for the International Journal of MultiSensor and MultiSource Information fusion (2008). Gee Wah NG served as the General co-chair for the 2012 ISIF International Conference on Information in Singapore. He authored three technical books.
WI-IAT 2015 Panel on Big Data in Global Brain and Social Networks

Tuesday, December 8, 2015

Chair: Chengqi Zhang, University of Technology, Sydney

Big Data is a buzzword for the phenomenon of how data analytics increasingly pervade commerce, industry and academia. The increasing volume, velocity, and variety of data instigate a re-examination of various research questions and the methodologies used to confront them. In this panel session, we invite our distinguished panelists to dialogue on the significance of this phenomenon, and particularly on how Big Data may affect the nascent areas of Social Networks and Collective Intelligence respectively.

Panelists:

- **Joseph Sifakis** (Turing Award 2007) – Professor at EPFL, Switzerland and Director, CRI, Grenoble, France
- **Francis Heylighen** - Director, Global Brain Institute and Professor, Free University of Brussels, Belgium
- **Steven Koonin** - Director, Center for Urban Science and Progress, New York University, USA
- **Sarit Kraus** (AAAI, ECCAI and ACM Fellow) - Professor, Bar-Ilan University, Israel and Adjunct Professor, University of Maryland, USA
- **Gee-Wah Ng** - Programme Director, DSO National Laboratories, Singapore
- **Dominik Ślęzak** - Professor, University of Warsaw, Poland and Chief Scientist, Infobright Inc.
- **Ning Zhong** - Professor, Maebashi Institute of Technology, Japan and Director, International Web Intelligence Consortium (WIC) Institute, Beijing University of Technology, China

Agenda:

- Introduction by Chair (10 min)
- Opening statements by Panelists (5 min each, total 30 min)
- Questions and Answers (60 min)
- Closing remarks (3 min each, total 20 min)
WI-IAT 2015 Workshops

Sunday, December 6, 2015

Workshop WS1: The Third International Workshop on Data Oriented Constructive Mining and the Seventh International Workshop on Emergent Intelligence Networked Agents (DOCMAS/ WEIN 2015)

Organizers: Satoshi Kurihara and Hiromitsu Hattori
Venue: Seminar Rm 3-1, SOA Level 3          Session Time: 10:30-18:00

S1201 Analysis of User Behavior on Private Chat System
Fujio Toriumi, Takafumi Nakanishi, Mitsuteru Tashiro, and Kiyotaka Eguchi

S1202 Machine-Learned Ranking based Non-task-oriented Dialogue Agent using Twitter Data
Makoto Koshinda, Michimasa Inaba, and Kenichi Takahashi

S1204 Mining Opinion Words and Targets from Online Reviews in a hybrid Framework
Hui Zhang, Qiyun Zhao, Hao Wang, Chen Zhang, and Fanjiang Xu

S1205 GenderPredictor: A Method to Predict Gender of Customers from E-commerce Website
Siyu Lu, Meng Zhao, Hui Zhang, Chen Zhang, Wei Wang, and Hao Wang

S1207 Mining User Experience through Crowdsourcing: a Property Search Behavior Corpus Derived from Microblogging Timelines
Yoji Kiyota, Yasuyuk Nirei, Kosuke Shinoda, Satoshi Kurihara, and Hirohiko Suwa

S1208 Roadmap for Multiagent Social Simulation on HPC
Itsuki Noda, Nobuyasu Ito, Kiyoshi Izumi, Tomohisa Yamashita, Hideki Mizuta, Tomio Kamada, Yohsuke Murase, Sachiko Yoshihama, and Hiromitsu Hattori

S1209 Indoor/outdoor mobile navigation via knowledge-based POI discovery in augmented reality Michele Ruta, Floriano Scioscia, Saverio Ieva, Danilo De Filippis, and Eugenio Di Sciascio

S1212 How Do Newcomers Blend into a Group? Study on a Social Network Game
Masanori Takano, Kazuya Wada, and Ichiro Fukuda
Workshop WS2: International Workshop on Complex Methods for Data and Web Mining (CMDWM 2015)

Organizers: Yong Shi and Lingfeng Niu
Venue: Seminar Rm 3-2, SOA Level 3 Session Time: 10:30-18:00

S2201 A Multi-regional CGE Model and Its Application in Low Carbon Policy Simulation in China Yongna Yuan, Na Li, and Minjun Shi

S2202 Smoothing Trust Region for Digital Image Restoration Ruizhi Zhou, Lingfeng Niu, and Zhiquan Qi

S2203 Prediction of sequential static input-output table Wen Long

S2204 An Approach to Identify SPAM Tweets Based on Metadata Martin Haeusl, Johannes Forster, and Daniel Kailer

S2205 Analysis on Marketing Ability and Financial Performance in Internet Company Zhuofan Yang and Yong Shi

S2206 Linear Twin SVM for Learning from Label Proportions Bo Wang, Zhensong Chen, and Zhiquan Qi

S2207 f-Fractional Bit Minwise Hashing for Large-Scale Learning Jingjing Tang and Yingjie Tian

Wr219 Blog, Forum or Newspaper? Web Genre Detection using SVMs Philipp Berger, Patrick Hennig, Martin Schönberg, and Christoph Meinel

Wr301 WOC: A New Weighted Ordinal Classification Markus Zeindl and Christian Facchi

Ir296 A Content-based Knowledge and Data Intensive System for Archaeological Motif Recognition Shu-Yu Lin, Man-Fong Cheng, Ray-I Chang, Chao-Lung Ting, Yu-Chun Wang, and Jan-Ming Ho

Human Characteristics on Tactile-Visual Cross-modal Roughness Discrimination Mohd Usairy Syafiq, Jiajia Yang, Yinghua Yu, Matsumoto Hiroki, Takahashi Satoshi, Jinglong Wu

Organizers: Yue Xu, Gabriella Pasi, and Yuefeng Li
Venue: Seminar Rm 3-4, SOA Level 3 Session Time: 10:30-18:00

S3201 Spoilers Ahead - Personalized Web Filtering
*Pascal Bissig, Philipp Brandes, Roger Wattenhofer, and Roman Willi*

S3202 Unifying Geographical Influence in Recommender Systems via Matrix Factorization
*Ce Cheng, Jiajin Huang, and Ning Zhong*

S3203 A Study of Drug Interaction for Personalised Decision Support in Dental Clinics
*Wee Pheng Goh, Xiaohui Tao, Ji Zhang, and Jianming Yong*

S3207 Data-driven Semantic Concept Analysis for User Profile Learning in 3G Recommender Systems
*Vladimir Gorodetsky and Olga Tushkanova*

S3209 Effective 20 Newsgroups Cleaning
*Khaled Albishre, Mubarak Albathan, and Yuefeng Li*

S3211 An Intelligent Recommender System based on Short-term Risk Prediction for Heart Disease Patients
*Raid Lafta, Ji Zhang, Xiaohui Tao, Yan Li, and Vincent S. Tseng*

Wr316 Contextually Intelligent Recommendation of Documents from User-subscribed Channels
*Ishan Verma and Lipika Dey*
Workshop WS4: The International Workshop on Knowledge Management of Web Social Media (KMWSM 2015)

Organizers: Wei Huang, Xiaohui Tao, and Yuefeng Li
Venue: Seminar Rm 3-5, SOA Level 3        Session Time: 09:00-12:30

S4202 Effects of audience characteristics and sources of information on perceived credibility of Web information
Ching-Pi Chuang

S4203 Mining Topical Relevant Patterns for Multi-document Summarization
Yutong Wu, Yang Gao, Yuefeng Li, Yue Xu, and Meihua Chen

S4208 Explore the development of WeChat Payment from user behavior
Wei Huang and Jialian Tang

S4209 Using Event Identification Algorithm (EIA) to improve microblog retrieval effectiveness
Sukjin You, Wei Huang, and Xiangming Mu

S4212 It Does Matter Who I sell to and Who I Buy From: Weighted Bilateral VCG
Esther David and Rina Azoulay

Wr308 Handling Inconsistent Closed Predicates: A Paraconsistent Approach
Badrinath Jayakumar and Rajshekhar Sunderraman

Wr381 Leveraging Zero Tail in Neighbourhood Based Link Prediction
Alfredo Milani, Andrea Chiancone, Valentina Franzoni, and Krassimir Markov
Workshop WS5: The Sixth International Workshop on Intelligent E-government and Emergency Management (EGOVEM 2015)

Organizers: Xin Ye, Liming Zhu, Ning Wang, and Xuelong Chen
Venue: Seminar Rm 3-5, SOA Level 3      Session Time: 13:30-18:00

S5202 Survey of Application and Research on Government Cloud Computing In China
Wang Ning, Xie Xiao Shan, Li Hui, Wang Xuehua, and Qin Xuezhi

S5208 Research on Scenario Deduction of Unconventional Emergency Based on Knowledge-Unit
Yanzhang Wang and Lei Zhang

S5209 Research of Resources Allocation Model in Emergency Decision of Incidents
Huaiming Li and Wenhui Chai

S5211 A Knowledge Element based Model Integration Method for Emergency Management
Xuelong Chen and Yali Wang

S5213 Multidimensional Intelligence Presentation Based on Knowledge Element Fusion
Lin Sun and Yanzhang Wang

S5217 Study on the Collaborative Pattern among Participators during the Response of Unconventional Emergency in China
Xin Ye, Yanxin Cui, Sihao Liu, and Wenyuan Zhou

Wr364 Orders Flows Forecasting by Intermediary Service Provider
Anton Ivaschenko and Ilya Syusin
Workshop WS6: The Eighth International Workshop on Natural Language Processing on Ontology Engineering (NLPOE 2015)

Organizers: Shiyong, Yao Liu, and Likun Qiu
Venue: Seminar Rm 2-3, SOA Level 2 Session Time: 10:30-18:00

S6201 The Construction of a kind of Chat Corpus in Chinese Word Segmentation
Xia Yang, Peng Jin, Xingyuan Chen, and Yan Cui

S6203 Chinese Spelling Errors Detection based on CSLM
Zhaoyi Guo, Xingyuan Chen, Peng Jin, and Si-Yuan Jing

S6204 Quantitative Study of Preposition Based on Large-Scale Corpus
Zhimin Wang, Yuxiang Jia, and Pierangelo Lacasella

S6205 Towards a Word Similarity Analysis of Chinese Noun Compounds
Lulu Wang, Meng Wang, and Na Tian

S6206 A Psycho-lexical Approach to the Assessment of Information Quality on Wikipedia
Qi Su and Pengyuan Liu

S6207 Comparing Argument Structure in Chinese Verb Taxonomy and Chinese Propbank
Xiaopeng Bai and Bin Li

S6208 Extracting Food Names from Food Reviews
Ge Xu and Likun Qiu

S6209 Semantic Structures of Chinese Disyllable New Words
Xiaodie Zhang and Shiyong Kang

Wr347 Subject-keyphrase Extraction based on Definition-Use Chain
Hung-Min Hsu, Ray-I Chang, Yu-Jung Chang, Shu-Yu Lin, You-Jyun Wang, and Jan-Ming Ho

Venue: Seminar Rm 2-4, SOA Level 2
Session Time: 09:00-12:30

S9201 Video Anomaly Detection using Selective Spatio-Temporal Interest Points and Convolutional Sparse Coding
Rudy Cahyadi HP and Junaidillah Fadlil

S9202 Anomaly Detection Ensembles In Defense of the Average
Alvin Chiang and Yi-Ren Yeh

S9203 A Clock Skew Replication Attack Detection Approach Utilizing the Resolution of System Time
Komang Oka Saputra, Yi-Hao Chu, and Wei-Chung Teng

Wr216 On Contextual Binding and Its Application in Cyber Deception Detection
Jim Chen

Wr262 A Fraud Detection Model Based on Feature Selection and Undersampling Applied to Web Payment Systems
Rafael Lima and Adriano Pereira
Tutorial T1: Distributed Agent Simulations for the Smart Energy Grid

Instructors: Michel Oey, Sander van Splunter, Zülküf Genç, and Frances Brazier
Venue: Seminar Rm 2-5, SOA Level 2    Session Time: 10:30-12:30

Abstract

The electricity industry in many countries is facing a number of challenges due to increasing demand, larger variations in peak demand, introduction of renewable energy sources, and the prospect of carbon accountability. Managing distributed demand and production is a challenge for the smart grid. Many solutions are being developed to this purpose, including demand-response techniques, different market mechanisms, and energy storage. In order to test these solutions, large-scale distributed simulations are necessary, including accurate models of required resources, actual usage data, and possibly connections to real hardware. Many simulation tools have already been developed and provide adequate validation for solutions proposed for isolated problems within the smart grid domain. However, for more comprehensive smart grid research, a simulation environment is required where many stakeholders are connected in larger simulation experiments. Many issues play a role in running distributed simulations. This tutorial focuses on a number of those issues, such as security, scalability, and resource modelling, and demonstrates the use of a distributed multi-agent simulation platform called Symphony.

Biography

Michel Oey received his PhD in Computer Science at the VU University Amsterdam. He is the main systems architect of the AgentScape agent platform and the Symphony platform. His research area includes the design of large-scale, distributed, multi-agent systems. He is currently an Assistant Professor in the Systems Engineering and Simulation section at Delft University of Technology.

Zülküf Genç received his PhD from the Electrical Engineering, Mathematics, and Computer Science (EEMCS) Faculty of Delft University of Technology (TUDelft),
Netherlands. He is currently working as a postdoctoral researcher in the Systems Engineering and Simulation Section at Delft University of Technology. He has worked on both AgentScape and Symphony. His research focuses on the application of multi-agent paradigm in understanding, design and evaluation of complex socio-technical systems such as smart grid and disaster management.

Sander van Splunter received his PhD in Computer Science at the VU University Amsterdam. After working as a researcher on adaptive systems, he moved to Delft University of Technology where he currently holds the position of Assistant Professor.

Prof. dr. Frances Brazier is a full professor within the Faculty of Technology, Policy and Management, at the Delft University of Technology, as of September 2009, before which she chaired the Intelligent Interactive Distributed Systems Group for 10 years within the Department of Computer Science at the VU University Amsterdam. Her group's interdisciplinary research focuses primarily on the design and (self) management of large scale distributed autonomous (adaptive) systems in dynamic environments. The social and legal requirements for the design of autonomous systems, the values that are of key importance are most often identified in explorative research with experts from different domains of expertise.
Tutorial T2: Multiplex Networks Mining

Instructor: Rushed Kanawati

Venue: Seminar Rm 2-4, SOA Level 2      Session Time: 13:30-18:00

Abstract

Research in modelling, analysing and mining large-scale networks has attracted an increasing effort in the last few years. A major trend of work in network modelling and mining concerns analysing homogeneous static networks (i.e. one snapshot of a network). However, in real world settings, networks are often dynamic, heterogeneous, and both nodes and links can be described by a set of attributes. The concept of multiplex network has been recently proposed to ease modelling real-world networks. A multiplex network is often represented as a multi-layer network composed of a set of nodes related to each other with different types of relations. This representation is much richer than simple complex networks often used to model complex interaction systems. However, this poses the challenge to provide adequate answers to all basic network analysis tasks that have been studied and provided in the recent few years for the case of homogeneous networks. This include for instance: the problem of node ranking (computing nodes centralities), community detection, link prediction, information diffusion models and network visualization. Almost all work in the field of multiplex network analysis are based on transforming the problem, in a way or another to the classical case of homogeneous network analysis. Existing approaches for multiplex networks include: layer aggregation based approaches or applying ensemble methods on results obtained on each layer aside. Little work has focused on analysing all layers at once. First propositions have also been done to adapt community detection algorithms for attributed networks but there is a need for an in-depth analysis.

Biography: Dr. Rushed Kanawati has received a PhD degree in computer science from the National Polytechnic Institute of Grenoble (INPG) France in 1998. He then joined the INRIA as an expert engineer where he worked on designing and implementing web based recommender systems. Since year 2000 he is member of LIPN Laboratory, university Paris 13, where he conducts research in the area of case-based reasoning, machine learning and social network analysis. His recent research work covers various topics such as link prediction and community detection in complex networks as well as multiplex and attributed network analysis. He is an author of more than 120 papers in national and international venues. He has supervised 8 PhD studies and has been involved in organizing several conferences, workshops and tutorials mainly in the area of complex network analysis.
Tutorial T3: Visual Analytics of Time-evolving Large-scale Graphs

Instructors: Raju Gottumukkala and Vijay Raghavan

Venue: Seminar Rm 2-5, SOA Level 2      Session Time: 13:30-18:00

Abstract

Data streams arriving from multiple data sources such as sensors, logs, and social media exhibit structural patterns, which can be modeled as time evolving graphs. With the rapid growth in Internet of Things (IoT’s) as well as the availability of large-scale data from social media, sensors, smart phones, there is great interest in structuring real world observations from these sources as dynamic graphs. The size and complexity of these graphs are however growing to span millions of nodes and billions of edges, and hence present several challenges in terms of processing, analyzing, and visualizing this data. Time evolving graphs of large scale graphs are being studied in various applications such as disaster management, cyber security, fraud detection, social community network analysis. This course will introduce you to time evolving graphs, their properties, various graph mining algorithms, tools for storing, processing, analyzing, and visualizing these graph data sets and some applications. The course will also provide some example solutions that have been implemented for visual analysis of large-scale time-evolving graphs.

Biography

Dr. Raju Gottumukkala is the Director of Research for the Informatics Research Institute (IRI) at UL Lafayette that includes the National Incident Management Systems and Advanced Technologies (NIMSAT) Institute, and the National Science Foundation (NSF) Center for Visual and Decision Informatics – an Industry/University Collaborative Research Center, and the Center for Business and Information Technologies (CBIT). He is also the site director of the NSF CVDI, and manages the Industry Advisory Board, and advises various organizations on big data strategy.

Dr. Vijay Raghavan is the Alfred and Helen Lamson/ BoRSF Endowed Professor in Computer Science at the Center for Advanced Computer Studies and the Director of the NSF-sponsored Industry/ University Cooperative Research Center for Visual and Decision Informatics. As the director, he co-ordinates several multi-institutional, industry-driven research projects and manages a budget of over $500K/year. His research interests are in data mining, information retrieval, machine learning and Internet computing.
WI-IAT 2015 Demo and Posters

Monday, December 7, 2015

Demo Session

Venue: Classroom 2-1, Level 2, SOA    Session Time: 10:00-10:30, 15:00-15:30

M201 An Agent-based Game Platform for Exercising People's Prospective Memory
Han Lin, Jinghua Hou, Han Yu, Zhiqi Shen, and Chunyan Miao

M202 Agent Augmented Inter-generational Crowdsourcing
Zhengxiang Pan, Chunyan Miao, Benny Toh Hsiang Tan, Han Yu, and Cyril Leung

M203 Contextual Topic Model based Image Recommendation System
Lei Liu

M204 Silver Assistants for Aging-In-Place
Di Wang, Budhitama Subagdja, Yilin Kang, and Ah-Hwee Tan

M205 MyLife: An Online Personal Memory Album
Di Wang and Ah-Hwee Tan

M206 Classifly: Classification of Experts by Their Expertise on the Fly
Keng Hoon Gan, Kian Min Gan, Oscar Wong, Bong Pin Ooi, and Ying Sheng Chan

M207 MYSTREAM: an in browser personalization service to follow events from Twitter
Antoine Boutet, Frederique Laforest, Stephane Frenot, and Damien Reimert

M208 Alignment of Configuration and documentation for highly engineered complex product configuration systems: a demonstration from a case study
Sara Shafiee, Katrin Kristjansdottir, and Lars Hvam

M209 NewsOpinionSummarizer: A Visualization and Predictive System for Opinion Pieces in Online News
Muhammad Atif Qureshi, Arjumand Younus, Josephine Griffith, Colm O'Riordan, Gabriella Pasi, and Youssef Meguebli
Poster Session

Venue: Foyer, SOA Level 3, SOA      Session Time: 10:00-10:30, 15:00-15:30

P202 Modeling Composite Emotions in Affective Agents
Xinjia Yu, Chunyan Miao, Cyril Leung, and Charles Salmon

P209 Cooperative Network of Mobile Agents to Remotely Process User Information Requests
Roberto Yus and Eduardo Mena

P210 Organic vs Sponsored Content: From Ads to Native Ads
Soumyava Das, Akshay Soni, Ashok Venkatesan, and Debora Donato

P211 E-BACH: Entropy-Based Clustering Hierarchy for Wireless Sensor Networks
Petr Musílek, Pavel Krömer, and Tomáš Bartoň

P212 Interactive Dynamic Influence Diagrams for Relational Agents
Yinghui Pan, Yifeng Zeng, and Yingke Chen

P213 The Impacts of Network Structure on User Activity Level in Online Social Networks (Wr280)
Yi Long, Victor O. K. Li, Guolin Niu, and Zhiyi Lu

P214 Generic Rules for the Discovery of Subsumption Relationships based on Ontological Contexts (Wr310)
Roberto Yus, Eduardo Mena, and Enrique Solano-Bes

P215 Multilingual Word Vectors for Over 200 Languages
Gerard de Melo

P216 Entity Identification on Microblogs by CRF Model with Adaptive Dependency (Wr314)
Jun-Li Lu, Makoto P. Kato, Takehiro Yamamoto, and Katsumi Tanaka

P217 On Neighborhood Effects in Location-based Social Network (Wr319)
Thanh-Nam Doan, Freddy Chua, and Ee-Peng Lim

P218 Modelling the Role of Cognitive Metaphors in Joint Decision Making (Ir309)
Laila van Ments, Dilhan Thilakarathne, and Jan Treur

46 | P a g e
P219 Directional Prediction of Stock Prices using Breaking News on Twitter (Wr257)
_Hana Alostad and Hasan Davulcu_

P220 Implementing Web Classification for TLDs (Wr255)
_Luca Deri and Maurizio Martinelli_

P221 IOCD-based Semantic Enablement for Service-Oriented M2M Architecture (Wr240)
_Yan Li, Xuemei Hu, Yulin Zhang, Abdul-Wahid Mohammed, and Yang Xu_

P222 Ontology-Based Reasoning with Uncertain Context in a Smart Home: A Decision Network Approach (Wr202)
_Abdul-Wahid Mohammed, Yang Xu, and Ming Liu_

P223 Proactive Plan-Based Continuous Query Processing over Diverse SPARQL Endpoints (Wr245)
_Sejin Chun, Seungmin Seo, Wonwoo Ro, and Kyong-Ho Lee_

P224 Job-Optimized Map-Side Join Processing using MapReduce and HBase with Abstract RDF Data (Wr300)
_Hyunsuk Oh, Sejin Chun, Sungkwang Eom, and Kyong-Ho Lee_

P225 Adaptive Pairwise Learning for Personalized Ranking with Content and Implicit Feedback (Wr340)
_Weiyu Guo, Shu Wu, Liang Wang, and Tieniu Tan_

P226 Clustering Variables by their Agents (Ir269)
_Tal Grinshpoun_

P227 Efficient Equilibria in a Public Goods Game (Ir247)
_Zohar Komarovsky, Vadim Levit, Tal Grinshpoun, and Amnon Meisels_

P228 Towards a Human-centered E-Commerce Personalization Framework (Wr291)
_Marios Belk, Panagiotis Germanakos, Panayiotis Andreou, and George Samaras_

P229 Exposing the underlying schema of LOD sources (Wr287)
_Laura Po, Fabio Benedetti, and Sonia Bergamaschi_
WI 2015 Program
Monday, December 7, 2015

Session WI–MS1: Web Mining and Warehousing I

Chair:
Venue: Seminar Rm 2-1, SOA Level 2  Session Time: 10:30-12:30

Wr208 Mining User-Generated Comments

*Julien Subercaze, Christophe Gravier, and Frederique Faforest*

Wr212 Large Margin Nearest Neighbor Embedding for Knowledge Representation

*Miao Fan, Qiang Zhou, Thomas Fang Zheng, and Ralph Grishman*

Wr244 A Novel Hierarchical Convolutional Neural Network for Question Answering over Paragraphs

*Suncong Zheng, Hongyun Bao, Jun Zhao, Jie Zhang, Zhenyu Qi, and Hongwei Hao*

Wr246 Comparing Tweet Classifications by Authors' Hashtags, Machine Learning, and Human Annotators

*Chifumi Nishioka, Ansgar Scherp, and Klaas Dellschaft*

Wr233 A Convolutional Architecture for Short Text Expansion and Classification (Short Paper)

*Peng Wang, Jiaming Xu, Bo Xu, Chenglin Liu, and Hongwei Hao*

Wr254 ClRank: A Method for Keyword Extraction from Web Pages using Clustering and Distribution of Nouns (Short Paper)

*Mohammed Rezaei, Najlah Gali, and Pasi Fränti*

Wr255 Implementing Web Classification for TLDs (Short Paper)

*Luca Deri, Maurizio Martinell, Daniele Sartiano, Michela Serrecchia, Loredana Sideri, and Sonia Prignoli*

Wr269 Knowledge Construction for the Broadcasting Content by using Audience Oriented Data (Short Paper)

*Jeong-Woo Son, Alex Lee, and Sun-Joong Kim*
Session WI–MS2: Semantic Aspects of Web Intelligence I

Chair:
Venue: Seminar Rm 2-2, SOA Level 2      Session Time: 10:30-12:30

Wr215 Efficient Semantic Verification of Ontology Alignment
DuyHoa Ngo and Zohra Bellahsene

Wr271 Leveraging Temporal Query-Term Dependency for Time-Aware Information Access
Bilel Moulahi, Lynda Tamine, and Sadok Ben Yahia

Wr240 IOCD-based Semantic Enablement for Service-Oriented M2M Architecture (Short Paper)
Yan Li, Xuemei Hu, Yulin Zhang, Abdul-Wahid Mohammed, and Yang Xu

Wr245 Proactive Plan-Based Continuous Query Processing over Diverse SPARQL Endpoints (Short Paper)
Sejin Chun, Seungmin Seo, Wonwoo Ro, and Kyong-Ho Lee

Wr283 Answering N-Relation Natural Language Questions in the Commercial Domain (Short Paper)
Elena Cabrio, Catherine Faron Zucker, Fabien Gandon, Amine Hallili, and Andrea Tettamanzi

Wr285 Accelerating the Update of Knowledge Base Instances by Detecting Vital Information from a Document Stream (Short Paper)
Rafik Abbes, Nathalie Hernandez, Karen Pinel-Sauvagnat, and Mohand Boughanem

Wr220 Bootstrapping Approach for Extracting Object Attribute Names from the Web (Short Paper)
Yoshinori Hijikata, Shintaro Nomura, Fumitaka Nakane, and Shogo Nishida

Wr238 Relation Extraction from Wikipedia Leveraging Intrinsc Patterns (Short Paper)
Yulong Gu, Weidong Liu, and Jiaxing Song
Session WI–MS3: Web Intelligence Foundations

Chair:
Venue: Seminar Rm 2-3, SOA Level 2
Session Time: 10:30-12:30

Wr250 LSIF: A System for Large-Scale Information Flow Detection Based on Topic-Related Semantic Similarity Measurement
Meng Zhao, Hao Wang, Liangliang Cao, Chen Zhang, Hongzhi Yin, and Fanjiang Xu

Wr300 Job-Optimized Map-Side Join Processing using MapReduce and HBase with Abstract RDF Data
Hyunsuk Oh, Sejin Chun, Sungkwang Eom, and Kyong-Ho Lee

Wr221 Web User Click Intention Prediction by using Pupil Dilation Analysis (Short Paper)
Joaquin Jadue, Gino Slanzi, Luis Salas, and Juan D. Velásquez

Wr252 Probabilistic Classification Using Data Mining (Short Paper)
Yuichiro Kase and Takao Miura

Wr261 Connecting the Dots in a Concept Space by Iterative Reading of Freetext References with Wordnet (Short Paper)
Amal Babour, Fatema Nafa, and Javed Khan

Wr317 Querying RDF Data with Imprecise Time Phrases (Short Paper)
Majid RobatJazi, Marek Reformat, Witold Pedrycz, and Petr Musílek

Wr386 Constructing Topos from RDF Data (Short Paper)
Marek Reformat and Tim Put

Wr266 The Impact Analysis Model for Web Service Evolution (Short Paper)
Wei Zuo, Youssef Amghar, and Aicha-Nabila Benharkat

Wr368 Automatic Generation of Authentication Questions from Private Messages (Short Paper)
Ming Li and Keishi Tajima
Session WI–MS4: Web Mining and Warehousing II

Chair:
Venue: Seminar Rm 2-1, SOA Level 2      Session Time: 16:00-18:00

Wr263 LAIM: Life Aspect Inference Method based on Probability Distribution for Real Life Tweets
_Shuhei Yamamoto, Noriko Kando, and Tetsuji Satoh_

Wr268 Collecting Microblog Posts Implicitly Related to Announcement Post
_Yuma Tsukamoto, Ryohei Sasano, Hiroya Takamura, and Manabu Okumura_

Wr311 Learning the Sentiment of Soccer Fans from Data on Bets and Social Nets
_Rafael Bomfim and Vasco Furtado_

Wr313 Minimal Cover of Implication Rules to Represent Two Mode Networks
_Sebastiao M. Neto, Luis Enrique Zarate, Mark A. J. Song, and Sérgio M. Dias_

Wr318 Product Purchase Prediction Based on Time Series Data Analysis in Social Media (Short Paper)
_Yuho Tsuboi, Adam Jatowt, and Katsumi Tanaka_

Wr323 Neural Word Representations from Large-Scale Commonsense Knowledge (Short Paper)
_Jiaqiang Chen, Niket Tandon, and Gerard de Melo_

Wr349 Weakly Supervised Object Class Learning via Discriminative Subspace Models (Short Paper)
_Qiaoying Huang, Kui Jia, Xiaofeng Zhang, and Xishuang Han_

Wr345 User Intended Context Sensitive Mining Algorithm for Search String Composition (Short Paper)
_Uma Gajendragadkar and Sarang Joshi_
Session WI–MS5: Semantic Aspects of Web Intelligence II

Chair:
Venue: Seminar Rm 2-2, SOA Level 2          Session Time: 16:00-18:00

Wr272 Parallel JavaScript Execution in Web Navigation Sequences
Jose Losada, Juan Raposo, Alberto Pan, Paula Montoto, and Manuel Álvarez

Wr289 SparkRDF: Elastic Discreted RDF Graph Processing Engine With Distributed Memory
Xi Chen, Huajun Chen, Ningyu Zhang, and Songyang Zhang

Wr287 Exposing the Underlying Schema of LOD Sources (Short Paper)
Fabio Benedetti, Sonia Bergamaschi, and Laura Po

Wr288 Elastic Streaming Semantic Engine for Web of Things (Short Paper)
Xi Chen, Huajun Chen, Ningyu Zhang, and Jue Huang

Wr310 Generic Rules for the Discovery of Subsumption Relationships based on Ontological Contexts (Short Paper)
Roberto Yus, Eduardo Mena, and Enrique Solano-Bes

Wr331 Automated Calculation of Term Relatedness Weights for Semantic Searches (Short Paper)
Elizabeth-Kate Gulland, Simon Moncrieff, and Geoff West

Wr355 An Ontology Analysis Implementation in Constraint Logic Programming (Short Paper)
Cleyton Rodrigues, Frederico Freitas, and Ryan Azevedo

Wr375 A Smart Hospital Information System for Mental Disorders (Short Paper)
Youjun Li, Zhijiang Wan, Jiajin Huang, Jianhui Chen, Zhisheng Huang, and Ning Zhong
Tuesday, December 8, 2015

Session WI–TS1a: Web Mining and Warehousing III

Chair:
Venue: Seminar Rm 2-1, SOA Level 2  Session Time: 10:30-12:30

Wr279 Structured Machine Learning for Data Analytics and Modeling: Intelligent Security as An Example
Yuh-Jong Hu, Wen-Yu Liu, and Win-Nan Wu

Wr314 Entity Identification on Microblogs by CRF Model with Adaptive Dependency
Jun-Li Lu, Makoto P. Kato, Takehiro Yamamoto, and Katsumi Tanaka

Wr341 On Multi-Tier Sentiment Analysis using Supervised Machine Learning (Short Paper)
Melody Moh, Abhiteja Gajjala, Siva Charan Reddy Gangireddy, and Teng-Sheng Moh

Session WI–TS1b: Intelligent Human-Web Interaction

Chair:
Venue: Seminar Rm 2-1, SOA Level 2  Session Time: 11:30-12:30

Wr370 On the Relationship between Perception of Usability and Subjective Mental Workload of Web Interfaces
Luca Longo and Pierpaolo Dondio

Wr224 Displaying User Profiles to Elicit User Awareness in Recommender Systems (Short Paper)
Yoshinori Hijikata, Kazunori Okubo, and Shogo Nishida

Wr291 Towards a Human-Centered E-Commerce Personalization Framework (Short Paper)
Marios Belk, Panagiotis Germanakos, Panayiotis Andreou, and George Samaras

Wr333 Predicting Depression of Social Media User on Different Observation Windows (Short Paper)
Quan Hu, Ang Li, Fei Heng, Jianpeng Li, and Tingshao Zhu
Wr365 Data Mining Based Recommendation System Using Social Websites (Short Paper)
Ali Faryal, Ahmad Tauqir, A. M. Martinez-Enriquez, and Muhammad Aslam

Session WI–TS2a: Special Session on Multi-Agent Systems for Big Data

Chair:
Venue: Seminar Rm 2-2, SOA Level 2          Session Time: 10:30-11:30

Wr376 Towards Solving Comprehensibility-Relevance Trade-off in Information Retrieval
Kouichi Akamatsu, Adam Jatowt, and Katsumi Tanaka

Wr342 Deployment of Private Crowdsourcing System with Quality Control Methods
Masayuki Ashikawa, Takahiro Kawamura, and Akihiko Ohsuga

Wr337 Fake and Spam Messages: Detecting Misinformation during Natural Disasters on Social Media (Short Paper)
Meet Rajdev and Kyumin Lee

Wr378 Text Comprehensiveness Ranking (Short Paper)
Ghaluh Indah P. S, Junaidillah Fadlil, Rudy Cahyadi H. P, and Hsing-Kuo Pao

Session WI–TS2b: Special Session on Multi-Agent Systems for Big Data and Quality of User Generated Content

Chair:
Venue: Seminar Rm 2-2, SOA Level 2          Session Time: 11:30-12:30

Wr299 Modeling Quantified Things using a Multi-Agent System
Nathalia Moraes do Nascimento, Carlos José Pereira de Lucena, and Hugo Fuks

Wr385 IoT and Context-aware Mobile Recommendations using Multi-Agent Systems
Bartlomiej Twardowski and Dominik Ryzko

Wr270 Distributed Government Architecture Based on Intelligent Agents and Web Services (Short Paper)
Emna Karoui Chaabane, Sameh Hadouaj, and Khaled Ghédira
Wednesday, December 9, 2015

Session WI–WS1: Social Networks and Ubiquitous Intelligence I

Chair:
Venue: Seminar Rm 2-1, SOA Level 2      Session Time: 10:30-12:30

Wr236 SPARQL for Networks of Embedded Systems
Dennis Boldt, Henning Hasemann, Marcel Karnstedt, Alexander Kröeller, and Christian von der Weth

Wr241 A Stable Layered Canvas Mechanism for Collaborative Web Applications
Tadachika Ozono, Shun Shiramatsu, and Toramatsu Shintani

Wr247 Simplified Detection and Labeling of Overlapping Communities of Interest in Question-and-Answer Sites
Zide Meng, Fabien Gandon, and Catherine Faron-Zucker

Wr280 The Impacts of Network Structure on User Activity Level in Online Social Networks
Yi Long, Victor O. K. Li, Guolin Niu, and Zhiyi Lu

Wr243 Topic Oriented User Influence Analysis in Social Networks (Short Paper)
Jing Wang, Zhijing Liu, and Hui Zhao

Wr239 Can Activities of Human Daily Life be Recognized and Predicted? (Short Paper)
Yulong Gu, Weidong Liu, and Jiaxing Song

Wr276 A Sliding Window-Based Algorithm for Detecting Leaders from Social Network Action Streams (Short Paper)
Quazi Marufur Rahman, Anna Fariha, Amit Mandal, Chowdhury Farhan Ahmed, and Carson K Leung

Wr277 A New Random-Walk Based Label Propagation Community Detection Algorithm (Short Paper)
Chang Su, Xiaotao Jia, Xianzhong Xie, and Yue Yu
Session (WI–WS2): Web Search & Recommendation I

Chair:
Venue: Seminar Rm 2-2, SOA Level 2
Session Time: 10:30-12:30

Wr217 Topic-Sensitive Location Recommendation with Spatial Awareness
Qing Guo, Yi Huang, and Yin Leng Theng

Wr223 Consolidation: Metric+Active Learning and Its Applications For Cross-domain Recommendation
Chu Guan, Qi Liu, Jingsong Lv, Enhong Chen, Hengshu Zhu, and Xin Li

Wr228 Suggesting Simple and Comprehensive Queries to Elementary-Grade Children
Meher Shaikh, Maria Pera, and Yiu-Kai Ng

Wr306 Using Non-textual Terms for Boosting Document Keyphrase Assignment
Raquel Silveira, Vasco Furtado, and Vladia Pinheiro

Wr307 Use of Web Popularity on Entity Centric Document Filtering
Vincent Bouvier and Patrice Bellot

Wr211 Human Factors Based Partitioning versus Data Clustering for Recommendations (Short Paper)
Penghua Yu, Lanfen Lin, and Zeyang Li

Wr222 Location Recommendation Incorporating Temporal and Spatial Effects (Short Paper)
Naoki Kojima and Tomohiro Takagi
Session WI–WS3: Web Intelligence Applications

Chair:
Venue: Seminar Rm 2-3, SOA Level 2      Session Time: 10:30-12:30

Wr202 Ontology-Based Reasoning with Uncertain Context in a Smart Home: A Decision Network Approach
Abdul-Wahid Mohammed, Yang Xu, and Ming Liu

Wr257 Directional Prediction of Stock Prices using Breaking News on Twitter
Hana Alostad and Hasan Davulcu

Wr265 Using a Flow Graph to Represent Data Flow and Dependency in Event Logs
Abdulelah Aldahami, Yuefeng Li, and Taizan Chan

Wr294 A Pheromone-like Model for Semantic Context Extraction from Collaborative Networks
Valentina Franzoni and Alfredo Milani

Wr305 Stock Price Prediction in Undirected Graphs using a Structural Support Vector Machine
Richard Kyle MacKinnon and Carson K Leung

Wr230 Walking Route Recommendation System for Taking a Walk as Health Promotion (Short Paper)
Yasufumi Takama, Wataru Sasaki, Takafumi Okumura, Chi-Chih Yu, Lieu-Hen Chen, and Hiroshi Ishikawa
Session WI–WS4: Social Networks and Ubiquitous Intelligence II

Chair: 
Venue: Seminar Rm 2-1, SOA Level 2  
Session Time: 15:00-17:00

Wr296 Towards a Social and Ubiquitous Web: A Model for Socio-Technical Networks  
Andrei Ciortea, Antoine Zimmermann, Olivier Boissier, and Adina Magda Florea

Wr304 Semantics-Enabled User Interest Detection from Twitter  
Fattane Zarrinkalam, Hossein Fani, Ebrahim Bagheri, Mohsen Kahani, and Weichang Du

Wr319 On Neighborhood Effects in Location-based Social Networks  
Thanh-Nam Doan, Freddy Chua, and Ee-Peng Lim

Wr320 Inferring Latent Co-activation Patterns for Information Diffusion  
Qing Bao, William K. Cheung, Jiming Liu, and Yunya Song

Wr328 Economics of Internet-Based Hospitality Exchange (Short Paper)  
Rustam Tagiew, Dmitry I. Ignatov, and Radhakrishnan Delhibabu

Wr334 Extraction and Analysis of Web Interviews (Short Paper)  
Philipp Berger, Patrick Hennig, Johannes Eschrig, Daniel Roeder, and Christoph Meinel

Wr372 A Study into the Correlation between Narcissism and Facebook Communication Patterns (Short Paper)  
Arjumand Younus, M. Atif Qureshi, Josephine Griffith, Colm O'Riordan, and Gabriella Pasi
Session (WI–WS5): Web Search & Recommendation II

Chair:
Venue: Seminar Rm 2-2, SOA Level 2      Session Time: 15:00-17:00

Wr340 Adaptive Pairwise Learning for Personalized Ranking with Content and Implicit Feedback
Weiyu Guo, Shu Wu, Liang Wang, and Tieniu Tan

Wr360 Integrating Tensor Factorization with Neighborhood for Item Recommendation in Multidimensional Context
Xiaoyu Tang, Yue Xu, and Shlomo Geva

Wr369 The Impact of Linked Documents and Graph Analysis on Information Retrieval Methods for Book Recommendation
Chahinez Benkoussas, Patrice Bellot, and Anais Ollagnier

Wr339 Affinity Inference with Application to Recommender Systems
Nan Li and Longin Jan Latecki

Wr256 Web Search Using Summarization on Clustered Web Documents Retrieved by User Queries (Short Paper)
Rani Qumsiyeh and Yiu-Kai Ng

Wr275 A Hybrid Recommendation List Aggregation Algorithm for Group Recommendation (Short Paper)
Yuankun Ma, Shujuan Ji, Yongquan Liang, Jianli Zhao, and Yongfeng Cui

Wr284 Online Temporal Summarization of News Events (Short Paper)
Tobias Schubotz and Ralf Krestel

Wr286 Parallel and Synchronized UCB2 for Online Recommendation Systems (Short Paper)
Mahmuda Rahman and Jae C. Oh
IAT 2015 Program
Monday, December 7, 2015

Session IAT–MS1: Autonomy-Oriented Computing

Chair:
Venue: Seminar Rm 2-4, SOA Level 2      Session Time: 10:30-12:30

Ir319 Active Crowdsourcing for Annotation
Shuji Hao, Steven C. H. Hoi, Chunyan Miao, and Peilin Zhao

Ir227 The Development of Normative Autonomous Agents: An Approach
Marx Viana, Paulo Alencar, Donald Cowan, Everton Guimarães, Francisco Cunha, and Carlos Lucena

Ir214 A Wireless Mobile Robots Deployment Approach for Maximising the Coverage of Important Locations in Disaster Rescues (Short Paper)
Xing Su, Minjie Zhang, and Quan Bai

Ir242 GongBroker: A Broker Model for Power Trading in Smart Grid Markets (Short Paper)
Xishun Wang, Minjie Zhang, Fenghui Ren, and Takayuki Ito

Ir280 Self Regulating Immunization Strategy for High Clustering Networks (Short Paper)
Alfredo Milani, Valentina Poggioni, and Riccardo Queri

Ir282 Monitoring Stakeholder Behaviour for Adaptive Model Generation and Simulation: A Case Study in Residential Load Forecasting (Short Paper)
Zulkuf Genc, Michel Oey, and Frances Brazier

Ir285 An Evolutionary Framework for Multi-Agent Organizations (Short Paper)
Boyang Li, Han Yu, Zhiqi Shen, Lizhen Cui, and Victor R. Lesser

Ir286 Multi-agent Voting Network Model with Adjacency Nodes (Short Paper)
Kosuke Shinoda and Satoshi Kurihara
Ir301 A Multi-agent Based Optimized Service Replication Scheme for SOC in Mobile Ad Hoc Environment (Short Paper)
*Bikash Choudhury, Subhrabrata Choudhury, and Animesh Dutta*

Ir313 Relational-AntMiner: First-order Rule Discovery with Ant Colony Optimization (Short Paper)
*Rafael Ramirez*

**Session IAT–MS2: Agent and Multi-Agent Systems Modeling**

Chair: 
Venue: Seminar Rm 2-2, SOA Level 2 Session Time: 10:30-12:30

Ir225 Fast Reinforcement Learning under Uncertainties with Self-Organizing Neural Networks
*Teck-Hou Teng and Ah-Hwee Tan*

Ir228 Modeling Curiosity in Virtual Companions to Improve Human Learners’ Learning Experience
*Qiong Wu, Chunyan Miao, and Cyril Leung*

Ir309 Modelling the Role of Cognitive Metaphors in Joint Decision Making
*Laila van Ments, Dilhan Thilakarathne, and Jan Treur*

Ir310 A Planning based Agent Programming Language supporting Environment Modeling
*Muhammad Adnan Hashmi, Amal El Fallah Seghrouchni, and Muhammad Usman Akram*

Ir272 An Agent Based Encapsulator System: For Integrating and Composing Legacy System Functionalities (Short Paper)
*Haniche Faycal, Mellah Hakima, and Drias Habiba*

Ir304 A Metamodel Approach to Developing Adaptive Normative Agents (Short Paper)
*Marx Viana, Paulo Alencar, and Carlos Lucena*

Ir252 RANA, a Real-Time Multi-agent System Simulator (Short Paper)
*Søren Vissing Jørgensen, Yves Demazeau, and John Hallam*
Session IAT–MS3: Coordination

Ir236 An Incentive Mechanism to Elicit Truthful Opinions for Crowdsourced Multiple Choice Consensus Tasks
Siyuan Liu, Chunyan Miao, Yuan Liu, Han Yu, Jie Zhang, and Cyril Leung

Ir274 On Distinguishing between Reliable and Unreliable Sensors Without a Knowledge of the Ground Truth
Anis Yazidi, John Oommen, and Morten Goodwin

Ir281 Establishing Cooperation in Highly-Connected Networks Using Altruistic Agents
Mohammad Rashedul Hasan and Anita Raja

Ir299 Improving Multi-agent Learners Using Less-biased Value Estimators
Sherief Abdallah and Michael Kaisers

Ir210 Reasoning with Trust and Uncertainty. Illustration in the Internet of Things (Short Paper)
Mondi Ravi, Yves Demazeau, and Fano Ramparany

Ir211 Automatic Generation of Plan Libraries for Plan Recognition Performance Evaluation (Short Paper)
Giovani Farias, Lucas Hilgert, Felipe Meneguzzi, Renata Vieira, and Rafael H. Bordini

Ir235 FTE: A Fuzzy Logic Based Trust Establishment Model for Intelligent Agents (Short Paper)
Abdullah Aref and Thomas Tran

Ir248 Equality or Efficiency: A Game of Distributed Multi-type Fair Resource Allocation on Computational Agents (Short Paper)
Qinyun Zhu and Jae C. Oh
Session IAT–MS4: Agent and Multi-Agent Systems Engineering I

Chair:
Venue: Seminar Rm 2-5, SOA Level 2           Session Time: 16:00-18:00

Ir208 Integrating Ontologies with Multi-Agent Systems through CArtAgO Artifacts
Artur Freitas, Alison R. Panisson, Lucas Hilgert, Felipe Meneguzzi, Renata Vieira, and Rafael H. Bordini

Ir209 Towards Practical Argumentation-Based Dialogues in Multi-agent Systems
Alison R. Panisson, Felipe Meneguzzi, Renata Vieira, and Rafael H. Bordini

Ir232 A Survey of Agent-Oriented Programming: From Program Models to Programming Languages and Environments
Xinjun Mao and QiuZhen Wang

Ir303 BDI-Agent Plan Selection based on Prediction of Plan Outcomes
João Faccin and Ingrid Nunes

Ir219 Dynamic Task Allocation using a Pheromone-Based Approach in Factory Domain Applications (Short Paper)
Wonki Lee and DaeEun Kim

Ir278 Using Conceptual Spaces for Belief Update in Multi-agent Systems (Short Paper)
João Mario Lopes Brezolin, Sandro Rama Fiorini, Marcia de Borba Campos, and Rafael H. Bordini

Ir284 Communication for Agents with Ontological Reasoning (Short Paper)
Marlo Souza, Álvaro Moreira, Renata Vieira, and John-Jules Meyer

Ir306 JAT4BDI: An Aspect-based Approach for Testing BDI Agents (Short Paper)
Francisco Cunha, Andrew Costa, Marx Viana, and Carlos Lucena
Tuesday, December 8, 2015

Session IAT–TS1: Autonomous Auctions and Negotiation

Chair:
Venue: Seminar Rm 2-3, SOA Level 2           Session Time: 10:30-12:30

Ir226 Optimal Negotiation Decision Functions in Time-Sensitive Domains
Tim Baarslag, Enrico H. Gerding, Reyhan Aydoğan, and M. C. Schraefel

Ir251 Double-sided Market Mechanism for Trading Cloud Resources
Sergei Chichin, Quoc Bao Vo, and Ryszard Kowalczyk

Ir260 A Winner Agent in a Smart Grid Simulation Platform
Serkan Ozdemir and Rainer Unland

Ir247 Efficient Equilibria in a Public Goods Game
Zohar Komarovsky, Vadim Levit, Tal Grinshpoun, and Amnon Meisels

Ir233 Ad Exchange: Intention Driven Auction Mechanisms for Mediating Between Publishers and Advertisers (Short Paper)
Rina Azoulay and Esther David

Ir288 Online Task Allocation by Price Discrimination (Short Paper)
Shigeo Matsubara

Ir294 An Algorithmic Trading Agent based on a Neural Network Ensemble: A Case of Study in North American and Brazilian Stock Markets (Short Paper)
Felipe Giacomel, Renata Galante, and Adriano Pereira
Session IAT–TS2: Agent and Multi-Agent Systems Engineering II

Chair:
Venue: Seminar Rm 2-4, SOA Level 2           Session Time: 10:30-12:30

Ir224 Rough Sets-based Prototype Optimization in Kanerva-based Function Approximation
Cheng Wu, Wei Li, and Waleed Meleis

Ir287 Agent Enabled Adaptive Management of Cloud Service Provisioning
Mohan Baruwal Chhetri, Quoc Bao Vo, and Ryszard Kowalczyk

Ir215 Automated Agent Behavior Construction for Protocol-based Multiagent Systems
Akin Gunay, Yang Liu, Jie Zhang, and Partha Dutta

Ir297 Data-driven Dynamic Adaptation Framework for Multi-Agent Training Game (Short Paper)
Haiyan Yin, Linbo Luo, Wentong Cai, and Jinghui Zhong

Ir276 Avoiding Game-tree Pathology in Multi-player Games (Short Paper)
Tal Shmueli and Inon Zuckerman

Ir298 Multiagent Based Algorithmic Approach for Fast Response in Railway Disaster Handling (Short Paper)
Poulami Dalapati, Arambam James Singh, and Animesh Dutta
Wednesday, December 9, 2015

Session IAT–WS1: Distributed Problem Solving

Chair:
Venue: Seminar Rm 2-4, SOA Level 2
Session Time: 10:30-12:30

Ir245 Balanced Team Formation for Tasks with Deadlines
*Ryutaro Kawaguchi, Masashi Hayano, and Toshiharu Sugawara*

Ir246 Multiagent Collaborative Search with Self-Interested Agents
*Ryuki Shimoji and Chiaki Sakama*

Ir269 Clustering Variables by their Agents
*Tal Grinshpoun*

Ir293 Incremental DCOP Search Algorithms for Solving Dynamic DCOP Problems
*William Yeoh, Pradeep Varakantham, Xiaoxun Sun, and Sven Koenig*

Ir311 On Predictions for Dynamic, Self-Adaptive Techniques in DynDCSP's
*Anton Ridgway and Roger Mailler*

Ir207 Dynamic Coalitions Formation in Dynamic Uncertain Environments (Short Paper)
*Pascal Francois Faye, Samir Aknine, Mbaye Sene, and Onn Shehory*

Ir289 Multiple Sampling and Cooperative Search Strategy on Sampling-Based Distributed Constraint Optimization Method (Short Paper)
*Toshihiro Matsui and Hiroshi Matsuo*

Session IAT–WS2: Special Session on Agents in Urban Computing and Engineering

Chair:
Venue: Seminar Rm 2-3, SOA Level 2
Session Time: 15:00-17:00

Ir222 Constraint-Based Negotiation Model for Traffic Regulation
*Matthias Gaciarz, Samir Aknine, and Neila Bhouri*
Ir305 MATISSE 2.0: A Large-Scale Multi-Agent Simulation System for Agent-based ITS  
Mohammad Al-Zinati and Rym Zalila-Wenkstern

Ir314 Learning and Controlling Network Diffusion in Dependent Cascade Models  
Jiali Du, Pradeep Varakantham, Akshat Kumar, and Shih-Fen Cheng

Ir315 A Layered Hidden Markov Model for Predicting Human Trajectories in a Multi-floor Building  
Qian Li and Hoong Chuin Lau

Session IAT–WS3: Special Session on Agents for Aging in-Place

Chair:  
Venue: Seminar Rm 2-4, SOA Level 2  
Session Time: 15:00-17:00

Ir249 Coordinated Persuasion with Dynamic Group Formation for Collaborative Elderly Care  
Budhitama Subagdja and Ah-Hwee Tan

Ir256 Progressive Sequence Matching for ADL Plan Recommendation  
Shan Gao, Di Wang, Ah-Hwee Tan, and Chunyan Miao

Ir267 Non-Intrusive Robust Human Activity Recognition for Diverse Age Groups  
Di Wang, Ah-Hwee Tan, and Daqing Zhang

Ir318 Automatic Sleep Arousal Detection based on C-ELM  
Yuemeng Liang, Cyril Leung, Chunyan Miao, Qiong Wu, and Martin J. McKeown

Ir238 Environment for Telehealth Applications on Top of BDI4JADE (Short Paper)  
Daniel Bjerring Jørgensen, Kasper Hallenborg, and Yves Demazeau

Ir316 The Effects of Familiarity Design on the Adoption of Wellness Games by the Elderly (Short Paper)  
Zhengxiang Pan, Chunyan Miao, Han Yu, Cyril Leung, and Jing Jih Chin

Ir317 Active Aging in the Workplace and the Role of Intelligent Technologies (Short Paper)  
Qizhen Yang and Zhiqi Shen
Social Events

Welcome Reception

Sunday, 6 December
18:00-21:00
Li Ka Shing Library
Level 5, SMU

Social Outing

Tuesday, 8 December
16:00-18:30
Gardens by The Bay
18 Marina Gardens Drive

Conference Banquet

Tuesday, 8 December
Cocktail Reception
18:30-19:30
Orchid Bay View Foyer
Level 4, Sands Expo and Convention Centre

Conference Banquet
19:30-22:30
Orchid Junior Room
Level 4, Sands Expo and Convention Centre
Travel Instructions from SMU to Gardens by the Bay

**Walk 151m**
Walk to Bras Basah MRT Station.

2min

**Bras Basah MRT**
Board the train towards HarbourFront and alight at Promenade Station.

5min

**Promenade MRT**
Board the train towards Marina Bay and alight at Bayfront Station.

3min

**Walk 446m**
Take EXIT B from Bayfront and Walk to destination.

6min

Location Map of Bayfront MRT Station, Marina Bay Sands, and Gardens by The Bay
The Conference Venue

*Ngee Ann Kongsi Auditorium, Level 2, School of Accountancy
Singapore Management University (SMU)*

The conference is held within the Singapore Management University (SMU) campus at the School of Accountancy Building. Purpose-built over 4.5 hectares of prime Singapore land, SMU’s campus is the first of its kind — designed, integrated and constructed in the heart of a fully developed cityscape.

Surrounded by museums, theatres, educational institutions, art galleries, cafés, restaurants and a range of retail outlets, planning and development of the SMU campus involved a broad spectrum of professional, community, civic and public groups who together were intent on creating a unique city campus directed towards the challenges of the new millennium, and yet connected to the historical origins of this important district.

The campus has porous structures that engage the surroundings with open courtyards and free-flowing walkways and allow for an easy and natural integration with activities of the city. The campus design and structure reflect and support the character of SMU's curriculum and its style of teaching. The SMU campus offers an open environment in the heart of Singapore, with the ground floor of the buildings and the underground Concourse freely accessible to the public. It also has many street-level linkages and the Bras Basah MRT station directly beneath SMU's University Square.
SMU Vicinity Map

Singapore Management University
Transportation

Getting to Singapore

Singapore’s Changi International Airport is one of the busiest and best connected airport in the world, handling over 100 airlines flying to some 300 cities. The award-winning airport itself is jam-packed with activities and amenities, making it a world-class attraction in its own right.

From Changi Airport to Conference Venue

By Taxi

This is the most convenient way. Estimated fare is S$19-$25 (depending on time of arrival).

By Mass Rapid Transit (MRT)

Board the train towards Tanah Merah and alight at Tanah Merah Station (9 minutes, 3 stops), change to the train towards Joo Koon (Just cross the platform) and alight at City Hall Station (21 minutes, 10 stops) and walk about 400m for 5 minutes. Total estimated time would be 55 minutes. The trip costs S$1.74. MRT operation time: 5:31am - 11:18pm.

By Bus

Take bus 36 from Changi Airport Passenger Terminal Building (PTB) 2 Bus Terminal (located at Basement 2 of Changi Airport Terminal 2), it takes 44 minutes and 22 stops to Singapore Management University and a 2 minute walk to the School of Accountancy. It costs S$1.86. The bus operates from 6:10am to 10:55pm, with frequency ranging from 6 to 15 minutes.
Local Information

Currency

The Singapore dollar is used here and notes come in denominations of S$2, S$5, S$10, S$50, S$100, S$1,000 and S$10,000. Coins come in 5, 10, 20 and 50 cents and S$1.

Weather

Singapore is hot and humid all year-round, with temperatures usually reaching over 30°C. You should be prepared for rain at any time, which can be torrential but usually brief.

Languages

Singapore is hot and humid all year-round, with temperatures usually reaching over 30°C. You should be prepared for rain at any time, which can be torrential but usually brief.

Time Zone

Singapore Standard Time is GMT +8 hours.

Connectivity

Visitors can register for a free public Wi-Fi account with their passport numbers at any Wireless@SG hotspot. Overseas charges may apply. Alternatively, one can buy a local prepaid SIM card from telcos M1, Singtel and StarHub to access Wireless@SG.

Power Plug

The standard electrical current used in Singapore is 220-240 volts AC (50 cycles) and you can use power plugs with three square prongs here.
Tipping

Tipping is welcome, but not customary, when you experience good service. Most restaurants and hotels have added a standard 10 percent service charge to your bill.

No Smoking Areas

You are not allowed to smoke in all air-conditioned places, such as malls and eateries. There are designated smoking areas in some entertainment outlets and open-air eateries.

Safe Drinking Water

You can drink water straight from the tap as the water in Singapore passes World Health Organization standards. You can also buy bottled water easily.

Tax Refund

Tourists can claim a refund on the 7% Goods and Services Tax (GST) paid on your purchases if you spend more than $100 at participating shops. To know whether a shop is participating in the Tourist Refund Scheme, look for a “Tax Free” shopping logo or sign displayed at the shop. You can also check with the retailer about whether your purchases are eligible for the GST refund.

Emergency Numbers

Police: 999 (local toll-free number)
Ambulance/Fire Brigade: 995 (local toll-free number)
Disclaimer

The organizers of WI-IAT 2015 have made every effort to ensure that the conference achieves its goal of disseminating the very best and most current information, advances and research on web intelligence and intelligent agent technologies. Furthermore, the organizers have made every effort to ensure that the delegates remain comfortable and enjoy the experience of the conference. However, the organizers take any responsibility for any damage, loss or inconvenience delegates may incur or experience in connection with the conference. In addition, the organizers cannot be held responsible for the correctness or appropriateness of the talks, papers, tutorials and demonstrations included in the conference. In particular, changes to the published conference program or cancellations of parts thereof do not entitle delegates to a full or partial refund of the conference fee.

Moreover, in the event of industrial disruption or other unforeseen circumstances, the organizers accept no responsibility for loss of monies incurred by delegates. The organizers accept no liability for injuries/losses of whatever nature incurred by participants and/or accompanying person, nor for loss or damage to their luggage and/or personal belongings. Delegates are expected to make their own arrangements with respect to personal insurance.

Any personal/business information supplied to the conference will be used by the conference organization for the purposes of conference registration and administration. Names and addresses of delegates will be processed electronically and included in a list of delegates that may be posted and distributed during and in connection with the conference, unless the delegate has previous opted via the online registration system to not have their information shared. By registering for the conference, delegates give their consent for such uses of their personal and business information.