2012 WORLD INTELLIGENCE CONGRESS

WI’12, IAT’12, AMT’12, BI’12, and ISMIS’12

4 – 7 December 2012
Macau SAR
http://www.fst.umac.mo/wic2012
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Welcome Message from General Chairs

Welcome to Macau, China. As conference organizers, we greatly appreciate your support of the 2012 World Intelligence Congress as a joint forum of five international conferences -- WI'12, IAT'12, AMT'12, BI'12 and ISMIS'12. We are proud that this year marks the 100th anniversary of ACM Turing Awards. And we are especially pleased that the five conferences are held together in Macau, China.

Macau, located at the mouth of the Pearl River, is a Special Administrative Region (SAR) of the People’s Republic of China. The human history of Macau goes back up to 6,000 years, and includes many different and diverse civilizations and periods of existence. Fishermen from Fujian and farmers from Guangdong were the first known settlers in Macau. During the Qin Dynasty (221–206 BC), the region now called Macau came under the jurisdiction of Panyu County, Nanhai Prefecture of the province of Guangdong. It was administratively part of Dongguan Prefecture in the Jin Dynasty (265–420 AD), and alternated under the control of Nanhai and Dongguan in later dynasties. In 1152, during the Song Dynasty (960–1279 AD), it was under the jurisdiction of the new Xiangshan County. In the early 1550s the Portuguese reached this region, which the locals also called A Ma Gao, “place of A Ma”, in honor of the Goddess of Seafarers. The Portuguese adopted the name, which gradually changed into the current name Macau, and with the permission of Guangdong’s mandarins, established a city that within a short time had become a major port for trade between China, Japan, India and Europe.

In modern times Macau has developed industries such as textiles, electronics and toys, and has built up a world class tourist industry with a wide choice of hotels, resorts, sports facilities, restaurants and casinos. It also provides financial and banking services, staff training, transport and communications support. Like Hong Kong, Macau benefits from the principle of “one country, two systems” since the handover in 1999. The tiny SAR is growing in size - with more buildings on reclaimed land - and in the number and diversity of its attractions. The greatest of these continues to be Macau’s unique society, with communities from the East and West complementing each other, and the many people who come to visit. In addition to your participation in the 2012 World Intelligence Congress, we hope you will enjoy the rich multicultural attractions and have a wonderful stay in Macau.

The 2012 World Intelligence Congress draws five well established International Conferences to Macau and serves as an international forum for researchers and practitioners from different areas of Computer Science to share and exchange information on their academic researches and practical developments related, in particular, to technologies of Web Intelligence, Intelligent Agents, Active Media, Brain Informatics, and Methodologies for Intelligent Systems. It is also a venue for reviewing and discussing emerging research topics and trends related to these topics as well. The congress brings together a community of people interested in how to leverage Intelligence to different areas, not only for research, but also for industry. We are certain that this forum will be enriched with six joint keynote speeches by Professor Edward Feigenbaum (1994 Turing Award Winner) of Stanford University, Professor Eunice E. Santos of University of Texas at El Paso, Professor Sven Koenig of University of Southern California, Professor Jianhua Ma of Hosei University, Professor Sankar Pal of Indian Statistical Institute, and Professor Alfred Kobsa of University of California, respectively.

The 2012 Intelligence Congress is organized and sponsored by the IEEE Computer Society (TCII - Technical Committee on Intelligent Informatics), Web Intelligence Consortium (WIC), ACM, Springer, University of Macau, and Hong Kong Baptist University. Strong support and valuable guidance from many organizations have made this year’s congress possible. Many people have gone beyond the normal call of duty by contributing substantial time and special efforts to this congress. Most notable are the Program Chairs for all the five conferences, who have created an excellent technical program from the overwhelming number of paper submissions. We would like to especially thank Yiu-ming Cheung (WI’12/IAT’12 Program Chair), Pawan Lingras, Piotr S. Szczepaniak, and Einoshin Suzuki (WI’12 Program Co-Chairs), Eugene Santos, Huaglory Tianfield, and Hoong Chuiin Lau (IAT’12 Program Co-Chairs), Yuefeng Li and Yangqing Zhang (WI’12/IAT’12 Workshop Co-Chairs), Tsuyoshi Murata and Hui Xiong (WI’12/IAT’12 Tutorial Co-Chairs), Haolan Zhang (Publication Chair), Runhe Huang and Ali A. Ghorbani (AMT’12 Program Co-Chairs), Beihong Jin and Neil Y. Yen (AMT’12 Workshop Co-Chairs), Fabio Massimo Zanzotto and Shusaku Tsumoto (BI’12 Program Co-Chairs), Li Chen and Alexander Felfernig (ISMIS’12 Program Co-Chairs), William Kwok Wai Cheung (ISMIS’12 Workshop Chair), and Juzhen Dong (Cyber Chair Administrator).
Special thanks must go to the Local Chairs Ryan Leong Hou U and Karen Neng for their hard work and excellent arrangement to ensure a pleasant and supportive conference environment.

Last but not the least, the joint conferences would not be possible without the thousands of researchers and students, who enthusiastically supported and participated in the conferences at various stages, from submission, to preparing camera-ready copies, to presenting their work at the conferences, and hundreds of reviewers and program committee members, who rigorously reviewed and handled the papers.

We all look forward to many excellent technical and social interactions during this 4-day congress. We encourage all of you to fully participate in the technical and social events. We wish you an enjoyable and impressive meeting in Macau, and we thank you for attending!

Honorary Chair
Wei Zhao, Rector, University of Macau

Congress Chairs
Philip Chen, Dean of FST, University of Macau
Yuanyan Tang, University of Macau

General Chairs
Ning Zhong, Maebashi Institute of Technology, Japan
Zhiguo Gong, University of Macau
Jiming Liu, Hong Kong Baptist University, HK
Niels Taatgen, University of Groningen, Netherlands
Yiyu Yao, University of Regina, Canada
Takahira Yamaguchi, Keio University, Japan
Pasi Gabriella, University of Milano - Bicocca, Italy
Zbigniew W. Raś, University of North Carolina, Charlotte, USA

WI 2012 Welcome Message from Conference Chairs and Program Chairs

It is our great pleasure to welcome all delegates to the 2012 IEEE/WIC/ACM International Conference on Web Intelligence (WI 2012). This year WI 2012 is the 11th edition of its series.

WI 2012 is organized as an associated member to the 2012 World Intelligence Congress, which also includes the other associated conferences, namely, the 2012 Active Media Technology (AMT’12), the 2012 Brain Informatics (BI’12), the 2012 Methodologies for Intelligent Systems (ISMIS’12), and the 2012 IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT’12). The 2012 World Intelligence Congress is dedicated to the 2012 Alan Turing Year (Centenary of Alan Turing’s birth).

The WI 2012 conference is technically sponsored by the IEEE Computer Society Technical Committee on Intelligent Informatics (TCII), the Web Intelligence Consortium (WIC), the ACM SIGART, Hong Kong Baptist University, and University of Macau. WI2012 provides a leading international forum to bring together researchers and practitioners from diverse fields, to increase the cross-fertilization of ideas and to explore the fundamental roles, interactions as well as practical impacts of Artificial Intelligence engineering and Advanced Information Technology on the next generation of Web systems.

This year we have received 143 papers submitted from 36 countries for WI 2012. After a rigorous peer review process undertaken by the Program Committee, we have accepted 56 regular papers and 40 short papers, which represent an acceptance rate of around 39% for regular paper and 28% for short paper, respectively. We congratulate authors of accepted papers, and also sincerely thank all authors of non-accepted papers for their interests in WI 2012.

The WI 2012 technical program features regular sessions, special sessions, and 2 tutorials, together covering the following areas:
- WI foundations
- World Wide Wisdom Web (W4)
- Web Information Retrieval and Filtering
- Semantics and Ontology Engineering
- Web Mining and Farming
- Social Networks and Ubiquitous Intelligence
- Knowledge Grids and Grid Intelligence
It is our great pleasure to welcome all delegates to the 2012 IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT 2012). This year IAT 2012 is the 11th edition of its series.

IAT 2012 is organized as an associated member to the 2012 World Intelligence Congress, which also includes the other associated conferences, namely, the 2012 Active Media Technology (AMT’12), the 2012 Brain Informatics (BI’12), the 2012 Methodologies for Intelligent Systems (ISMIS’12), and the 2012 IEEE/WIC/ACM International Conference on Web Intelligence (WI’12). The 2012 World Intelligence Congress is dedicated to the 2012 Alan Turing Year (Centenary of Alan Turing’s birth).

The IAT 2012 conference is technically sponsored by the IEEE Computer Society Technical Committee on Intelligent Informatics (TCII), the Web Intelligence Consortium (WIC), the ACM SIGART, Hong Kong Baptist University, and University of Macau. IAT 2012 serves as a leading international forum to bring together researchers and practitioners from diverse fields, such as computer science, information technology, business, education, systems engineering, and robotics, to examine the design principles and performance characteristics of various approaches in intelligent agent technology.

This year we have received 91 papers submitted from 25 countries for IAT’2012. After a rigorous peer review process undertaken by the Program Committee, we have accepted 41 regular papers and 24 short papers, which represent an acceptance rate of around 30% for regular paper and 40% for short paper, respectively. We congratulate authors of accepted papers, and also sincerely thank all authors of non-accepted papers for their interests in IAT 2012.

The IAT 2012 technical program features regular sessions, special sessions, and 2 tutorials, together covering the following areas:

- Autonomy-Oriented Computing (AOC)
- Agent and Multi-Agent Systems Modeling
- Agent and Multi-Agent Systems Engineering
- Coordination
- Autonomous Auctions and Negotiation
- Autonomous Knowledge and Information Agents
- Distributed Problem Solving
- Agent and Multi-Agent Based Applications

All keynotes are set into a unified schedule across the 2012 World Intelligence Congress. Besides, WI 2012 has organized a number of thematic workshops. The workshops provide focused and in-depth exposure to some newly emerging frontiers that may be of particular interest to the Web Intelligence community.

We are confident that WI 2012 stands as a leading international forum for researchers and practitioners to present state-of-art progresses and insights. It makes available a unique opportunity for the exchange of experiences and ideas and for multi-disciplinary and especially academia-industry collaborations and cross-fertilizations.

On behalf of the WI 2012 Conference Committees, we would like to thank all authors and presenters and all members of the International Program Committee for their substantive contributions towards the high quality of the WI 2012 conference. We would also like to thank the technical sponsors for their valuable support. Last but not the least, we are extraordinarily appreciative for the tremendous and most effective administrative and secretarial support from the local host and local organizing team, without which the success of the conference’s organization would not be possible.

We hope you will find WI 2012 a rewarding experience, and wish you have a very enjoyable stay in Macau alongside the conference!

Yours sincerely,

Conference General Chairs
Zhiguo Gong, Ning Zhong

Program Chair
Yiu-ming Cheung

Program Co-Chairs
Pawan Lingras, Piotr S. Szczepaniak, Einoshin Suzuki

IAT 2012 Welcome Message from Conference Chairs and Program Chairs

It is our great pleasure to welcome all delegates to the 2012 IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT 2012). This year IAT 2012 is the 11th edition of its series.

IAT 2012 is organized as an associated member to the 2012 World Intelligence Congress, which also includes the other associated conferences, namely, the 2012 Active Media Technology (AMT’12), the 2012 Brain Informatics (BI’12), the 2012 Methodologies for Intelligent Systems (ISMIS’12), and the 2012 IEEE/WIC/ACM International Conference on Web Intelligence (WI’12). The 2012 World Intelligence Congress is dedicated to the 2012 Alan Turing Year (Centenary of Alan Turing’s birth).

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The IAT 2012 technical program features regular sessions, special sessions, and 2 tutorials, together covering the following areas:

- Autonomy-Oriented Computing (AOC)
- Agent and Multi-Agent Systems Modeling
- Agent and Multi-Agent Systems Engineering
- Coordination
- Autonomous Auctions and Negotiation
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Conference General Chairs
Zhiguo Gong, Ning Zhong

Program Chair
Yiu-ming Cheung

Program Co-Chairs
Pawan Lingras, Piotr S. Szczepaniak, Einoshin Suzuki
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We are confident that IAT 2012 stands as a leading international forum for researchers and practitioners to present state-of-art progresses and insights. It makes available a unique opportunity for the exchange of experiences and ideas and for multi-disciplinary and especially academia-industry collaborations and cross-fertilizations.

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Yours sincerely,

Conference General Chairs
Zhiguo Gong, Ning Zhong

Program Chair
Yiu-ming Cheung

Program Co-Chairs
Eugene Santos, Huaglory Tianfield, Hoong Chuin Lau

It is our great pleasure and honor to welcome the distinguished speakers and all delegates to the 2012 IEEE/WIC/ACM International Conference on Active Media Technology (AMT’12). This year AMT’12 is the 8th edition of its series.

AMT’12 is organized as an associated member to the 2012 World Intelligence Congress, which is dedicated to the 2012 Alan Turing Year (Centenary of Alan Turing’s birth). The AMT conference series aims to explore and present state-of-art progresses and insights in a wide spectrum of realms related to active media technology. AMT’12 serves as a leading international forum to bring together researchers and practitioners from diverse fields, such as computer science, intelligent information technology, human-centered and seamless media, proactive and intelligent interface, big data mining and knowledge discovery, etc.

This year we have received totally 112 papers submitted from 21 countries for AMT’12 main conference, the 12th International Workshop on Meta-synthesis and Complex Systems (MCS’12), and two Special Sessions (SM-KDM’12 and CHI-KDD’12). After a rigorous evaluation process, 43 papers have been accepted as regular papers by the AMT’12 main conference and 22 papers have been accepted from one workshop and two special sessions. We sincerely thank all authors for their interests in and contributions to AMT’12.

The AMT’12 technical program features regular sessions, workshop sessions and special sessions, together covering the following areas:

- Active Media Data Mining and Machine Learning Techniques
- Agent-based Applications and Multi-Agent Systems
- Ubiquitous Intelligent Devices and Systems
- Active Media based Information Retrieval and Processing
- Semantic Computing for Active Media, Social Networks, and AMT-based Systems
- Meta-synthesis and Complex Systems
- Social Knowledge Discovery and Management
- Human-Computer Interaction and Knowledge Discovery from Big Data
BI 2012 Welcome Message from Conference Chairs and Program Chairs

It is a pleasure to welcome you in Macau as delegate to the Brain Informatics 2012 conference that is organized under the umbrella of the 2012 World Intelligence Congress (WIC’12), a Special Event of the Alan Turing Year (Centenary of Alan Turing’s birth). It is held jointly with other four international conferences: Active Media Technology 2012 (AMT’12), Methodologies for Intelligent Systems 2012 (ISMIS’12), IEEE/WIC/ACM Web Intelligence 2012 (WI’12), and IEEE/WIC/ACM Intelligent Agent Technology 2012 (IAT’12).

This joint event is a wonderful opportunity to strengthen the interactions and exchange of ideas among researchers working on a variety of focused themes under intelligent informatics. Brain Informatics (BI) is an emerging interdisciplinary and multi-disciplinary research field that focuses on studying the mechanisms underlying the human information processing system (HIPS). BI investigates the essential functions of the brain, ranging from perception to thinking, and encompassing such areas as multi-perception, attention, memory, language, computation, heuristic search, reasoning, planning, decision-making, problem-solving, learning, discovery, and creativity.

The series of Brain Informatics Conferences started with the First WICI International Workshop on Web Intelligence meets Brain Informatics (WImBI’06), held at Beijing, China in 2006. The 2nd, 3rd, and 4th conferences, Brain Informatics 2009, 2010 and 2011 were jointly held with International Conferences on Active Media Technology (AMT’09, AMT’10, and AMT’11), respectively, in Beijing China, Toronto Canada, and Lanzhou China.

The conferences provide a leading international forum to bring together researchers and practitioners that explore the interplay between studies of human brain and the research of computer science. On the one hand, studies of human brain models and characterizes the functions of the human brain based on the notions of information processing systems. WI centric information technologies are applied to support brain science studies. For instance, the wisdom Web and knowledge grids enable high-speed, large-scale analysis, simulation, and computation as well as new ways of sharing research data and scientific discoveries. On the other hand, informatics-enabled brain studies, e.g., based on fMRI, EEG, MEG significantly broaden the spectrum of theories and models of brain sciences and offer new insights into the development of human-level intelligence on the wisdom Web and knowledge grids. Different fields are involved in this challenge: computer science, information technology, artificial intelligence, Web intelligence, cognitive science, neuroscience, medical science, life science, economics, data mining, data and knowledge engineering, intelligent agent technology, human computer interaction, complex systems, and system science.
You can enjoy the very exciting program with keynote talks shared with the other four conference of the WIC’12, technical sessions, special sessions, workshops, tutorials, and social programs. This would not have been possible without the authors and the generous dedication of the Program Committee members and the external reviewers in reviewing the papers submitted to BI 2012, our keynote speakers, Edward Feigenbaum of Stanford University, USA (1994 Turing Award Winner) and Jianhua Ma of Hosei University, Japan, and without the enthusiasm of the organizers of our two special sessions with invited papers: (1) Granular Computing for Brain Informatics organized by Duoqian Miao, Andrzej Skowron, Dominik Slezak, Guoyin Wang, JingTao Yao, and Yiyu Yao; (2) Cognitive Architectures meets Brain Informatics organized by Jian Yang and Peipeng Liang.

Here we would like to express our gratitude to all the participants and all the members of the Conference Committee for their support.

BI 2012 could not have taken place without the great team effort of the Organizing Committee, the support of University of Macau, Hong Kong Baptist University, the International WIC Institute, Beijing University of Technology, China. Special thanks to Gong Zhiguo, Ryan Leang Hou U, Feng Wan, Juzhen Dong, Qin (Christine) Lv, Lars Schwabe, Daniel Tao, Jian Yang, and Shinichi Motomura for their supportive work. We are grateful to Springer Lecture Notes in Computer Science (LNCS/LNAI) for their generous support. We thank Alfred Hofmann and Anna Kramer of Springer for their help in coordinating the publication of this special volume in an emerging and interdisciplinary research field.

Enjoy the conference!

September 2012
Fabio Massimo Zanzotto, Shusaku Tsumoto, Niels Taatgen, Yiyu Yao

Conference General Chairs:
Niels Taatgen University of Groningen, Netherlands
Yiyu Yao University of Regina, Canada

Program Chairs:
Fabio Massimo Zanzotto University of Rome “Tor Vergata”, Italy
Shusaku Tsumoto Shimane University, Japan

ISMIS 2012 Welcome Message from Conference Chairs and Program Chairs

It is our pleasure to welcome you in Macau as delegate to the 20th International Symposium on Methodologies for Intelligent Systems (ISMIS 2012) that is organized under the umbrella of the 2012 World Intelligence Congress (WIC’12), a Special Event of the Alan Turing Year (Centenary of Alan Turing’s birth). It is held jointly with other four international conferences: Active Media Technology 2012 (AMT’12), Brain Informatics 2012 (BI’12), IEEE/WIC/ACM Web Intelligence 2012 (WI’12), and IEEE/WIC/ACM Intelligent Agent Technology 2012 (IAT’12).

ISMIS is a conference series that started in 1986. It is an established and prestigious conference for exchanging the latest research results in building intelligent systems. The scope of ISMIS is intended to represent a wide range of topics on applying artificial intelligence techniques to areas as diverse as decision support, automated deduction, reasoning, knowledge-based systems, machine learning, computer vision, robotics, planning, databases, information retrieval, and so on. ISMIS provides a forum and a means for exchanging information for those interested purely in theory, those interested primarily in implementation, and those interested in specific research and industrial applications. Out of 88 submissions to ISMIS 2012, 51 contributed papers were accepted for publication, among which 41 were accepted as regular papers and 10 were accepted as short papers. Every paper was reviewed by the international Program Committee.

The following major areas are selected in the regular track of ISMIS 2012:
- knowledge discovery and data mining,
- intelligent information systems,
- text mining and language processing,
- knowledge representation and integration,
- music information retrieval
- recommender systems.

Moreover, five special sessions are held:
- Technology Intelligence and Applications,
- Product Configuration,
- Human Factors in Information Retrieval,
- Social Recommender Systems,
- Warehousing and OLAPing Complex, Spatial and Spatio-Temporal Data.
The ISMIS 2012 conference is additionally accompanied by two pre-conference workshops:
- International Workshop on Privacy-Aware Intelligent Systems,
- International Workshop on Domain Knowledge in Knowledge Discovery.

More notably, we have one distinguished researcher to give the keynote: Prof. Alfred Kobsa, from University of California, Irvine, USA.

We wish to express our special thanks to the committee members of ISMIS 2012, and the great supportive effort of University of Macau, Hong Kong Baptist University, the International WIC Institute, Beijing University of Technology, China. Our sincere thanks go to the WIC 2012 Chairs: Wei Zhao, Philip Chen, Yuan Yan Tang, Ning Zhong, and Jiming Liu. Moreover, our thanks are due to Alfred Hofmann of Springer for his continuous support and to Anna Kramer for her work on the proceedings.

We hope you have a very enjoyable stay in Macau alongside the conference!

December 2012

General Chair
Zbigniew W. Raś, University of North Carolina, Charlotte, USA; and Warsaw University of Technology, Poland

Conference Chair
Jiming Liu, Hong Kong Baptist University, Hong Kong

Program Co-chairs
Li Chen, Hong Kong Baptist University, Hong Kong
Alexander Felfernig, Graz University of Technology, Austria

Workshop Chair
William Kwok Wai Cheung, Hong Kong Baptist University, Hong Kong

The Conference Venue

Macau Fisherman’s Wharf Convention and Exhibition Centre

The Conference will take place at Macau Fisherman’s Wharf Convention and Exhibition Centre. Macau Fisherman’s Wharf is the first-ever themed entertainment complex in the tourism zone of the city, located at the center of tourism area within 10 minutes walking distance to Macau-HK Ferry Terminal and Heliport and 15 minutes driving distance to Macau International Airport.
Getting to Macau

• By Air

1. Macau International Airport
   Tourists can use the Macau International Airport for travelling to several destinations in the region on direct flights or catch connecting flights to different parts of Asia, Europe or America. The airport is located on Taipa Island and is 15 minutes away from the Macau Ferry Terminal, 20 minutes from the Barrier Gate and only 10 minutes away from the Cotai Frontier Post. It operates 24 hours a day. For detailed information on flight schedules, please dial (853) 2886 1111 or visit http://www.macau-airport.com.

   For detailed information on immigration and customs formalities, you can visit http://www.fsm.gov.mo and http://www.customs.gov.mo

   Airline information: http://www.macau-airport.com

2. Helicopters
   When you are arriving Macau from Hong Kong and Shenzhen, tourists can take helicopters to Macau.

   East Asia Airlines and Heli Express Limited co-operates aircraft between the helipads on the Macau and Hong Kong Ferry terminals. Each flight takes only approximately 16 minutes. Macau to Hong Kong service operates from 9:00 a.m. to 10:30 p.m. and the Hong Kong to Macau service operates from 9:30 a.m. to 10:59 p.m.

   The helicopter service between Macau Ferry Terminal and Shenzhen Bao'an International Airport, PRC is also provided. The journey takes about 15 minutes at day and approximately 25 minutes at night. Macau to Shenzhen service operates at 9:45 a.m., 1:15 p.m., 2:45 p.m. and 7:45 p.m. and the Shenzhen to Macau service operates at 11:45 a.m., 1:45 p.m., 3:15 p.m., 5:15 p.m., and 8:30 p.m.

   Passengers can enquire for flight details from their Hotline: Macau (853) 2872 7288; Hong Kong (852) 2108 9898, Shenzhen: (86) 755-2777 8333 or visit the website: http://www.heliexpress.com.

3. Hong Kong International Airport
   If you are arriving via Hong Kong International Airport, the airport ferry service is available. Passengers can transit into or out of Macau via Hong Kong International Airport without the need to go through HK Customs and Immigration formalities and also without the hassle of carrying their luggage to the ferry terminal. The trip to Macau Route is approximately 45 minutes.

• By Sea

1. Hong Kong International Airport Ferry Terminal (See By Air 3)

2. Hong Kong Ferry Terminal to Macau Ferry Terminal

   TurboJET
   Journeys will take one hour from Hong Kong to Macau and vice versa operating almost 24 hours. Drinks and snacks are available on board. The ticket prices range from MOP151 in Economy class on weekdays day service to MOP185 Economy class for night service. Tickets in Super class range from MOP281 to MOP330, VIP cabins for 4 to 6 persons are available at prices from MOP1,164 to MOP1,978. Trips are made between the Hong Kong Ferry Terminal (located in the Shun Tak Centre at Sheung Wan) and the Macau Ferry Terminal (located in the Outer Harbour). For inquiries call Macau (853) 8790 7039 or Hong Kong (852) 2859 3333. For telephone bookings, call Hong Kong (852) 2921 6688. You can also visit the website: http://www.turbojet.com.hk.

   The Cotai Strip CotaiJet™
   The company runs ferry service between Hong Kong Macau Ferry Terminal and Macau Taipa Temporary Ferry Terminal. Travel time is approximately 1 hour. Fares range from MOP151 to MOP185 for Class; from MOP191 to MOP235 for First and from MOP1,528 to MOP1,880 for VIP Cabin. Enquiries for schedule and booking please call HK (852) 2359 9990, Macau (853) 2885 0595, or visit the website: http://www.cotaijet.com.mo.

   Shenzhen Ferry Terminal to Macau Ferry Terminal
   The Yuet Tung Shipping Co. offers a ferry service between Macau (at the end of Av. Almeida Ribeiro, Rua das Lorchas, near the Macau Masters Hotel, Pier 11A) and She Kou (Shenzhen). The trip takes about one hour and twenty minutes. Please call (853) 2857 4478 for detail.

   TurboJET’s service also extends to carrying passengers to and from Shenzhen. The company offers trips between Macau, Shenzhen Airport Fu Yong Ferry Terminal and She Kou. The journeys are about 1 hour. For more information, please visit http://www.turbojet.com.hk.
### By Land

There are two gateways available, the Barrier Gate and the COTAI Frontier Post. The Barrier Gate operates from 7:00 AM to midnight. The COTAI Frontier Post at the Taipa–Coloane Reclaimed Area operates from 9:00 AM to 8:00 PM.

If you come from major cities in Guangdong Province, mainland China, the Kee Kwan Motor Road Co. offers an air-conditioned bus service between Macau and major cities in Guangdong Province during 7:15 a.m. to 9:30 p.m. Buses depart from the bus stop near the Master Hotel (at the end of Av. Almeida Ribeiro and Rua das Lorchas). Tel: (853) 2893 3888.

*Source: Macau Government Tourism Office*

### Getting to the Venue

No matter what means of transportation you take to arrive Macau. You can choose to use the following to reach the conference venue:

**Taxi:**
Taxis are air-conditioned and inexpensive; they are freely available at the taxi station outside the Airport and Macau Ferry Terminal. There will be a surcharge of five patacas and each piece of luggage carried in the trunk will cost three patacas.

**Bus:**
There are special bus service (marked AP1, MT1, MT2, N2 & 26) serving the airport. These buses cross the city and stop at the major hotels. To reach the conference venue, you can take 1A, 3, 3A, 8, 10, 10A, 10B, 12, 17, 28A, 28B, 28C, 32, AP1. One bus ride is MOP 3.20.
Floor Plan of Macau Fisherman’s Wharf Convention and Exhibition Centre

Floor Plan of Macao Science Center Convention Hall and Meeting Rooms

Macao Science Center Access Map
General Information

About the Conference

On-Site Registration Hours

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, 3 December 2012</td>
<td>2:00 p.m. - 5:00 p.m.</td>
</tr>
<tr>
<td>Tuesday, 4 December 2012</td>
<td>8:00 a.m. - 5:00 p.m.</td>
</tr>
<tr>
<td>Wednesday, 5 December 2012</td>
<td>8:00 a.m. - 5:00 p.m.</td>
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<tr>
<td>Thursday, 6 December 2012</td>
<td>8:00 a.m. - 5:00 p.m.</td>
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<tr>
<td>Friday, 7 December 2012</td>
<td>8:00 a.m. - 9:00 a.m.</td>
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</tbody>
</table>

General Inquiries

For queries, please contact the Conference Secretariat of WIC 2012 at +853 2878 3134 or email to WIC2012@xdchannel

Welcome Reception

Tuesday, 4 December, 6:30 p.m. - 8:30 p.m., at the Macao Science Center Convention Hall, located at Avenida Dr. Sun Yat-Sen, Macau

Conference Banquet

Thursday, 6 December, 7:00 p.m. - 9:00 p.m., at the Macau Fisherman’s Wharf Convention and Exhibition Centre, located at 1/F., Rome, Avenida da Amizade e Avenida Dr. Sun Yat-Sen, Macau

Volunteers

You may ask Volunteers for help for any questions. They will be happy to help you.

Name Tags

Each badge carries the name and affiliation of the badge holder. Admission to the welcome reception, conference banquet, conference and workshop sessions is by badge only. If you lose your badge, please go to the Registration Desk for a replacement.

Language

The conference and all its activities will be conducted in English.

Note to Speakers

If you are scheduled to present, please ensure your PowerPoint is loaded in advance of your presentation time. Please visit the registration desk if you have any questions or for further details.

Lunches, Morning and Afternoon Coffees and Teas

Morning and afternoon coffees and teas, lunches on the 4th, 5th, 6th and 7th December are included in the conference registration.

Urgent Messages

Urgent messages for delegates can be directed to the registration desk. Messages will be held at the registration desk for collection and the recipient will be notified via a notice board.

Internet Access

WiFi Interest access is available at the conference venue. You will be provided with a login and a password at the registration desk.

Mobile Phones & Laptop Sound

As a courtesy to presenters and colleagues, please ensure that all mobile phones and sound from your laptop are switched off during the conference sessions.

No Smoking Policy

Delegates should be aware that smoking is forbidden by the Macau law in all public areas and transports in Macau.

About Macau

Location

The Macau Special Administrative Region (MSAR) is a part of China’s territory located on the western bank of the Pearl River Delta, at latitude 22º 14º North, longitude 113º 35º East and connected to Gongbei District by the Border Gate (Portas do Cerco) isthmus. It located 60 kilometers from Hong Kong and 145 kilometers from the city of Guangzhou.

Time

Macau is eight hours ahead of Greenwich Mean Time.
General Information

Language
Chinese and Portuguese are the official languages, Cantonese being most widely spoken. The official languages are used in government departments in all official documents and communication. English is generally used in trade, tourism and commerce.

Currency
The Pataca (MOP) is Macau’s official currency. Foreign currency on travellers cheques can be easily changed in hotels, banks and authorized exchange dealers located all around the city. Most credit cards are accepted in many hotels, shops and restaurants.

Climate
The climate is fairly warm tropical climates. Annual average temperature is about 20°C (68°F) and ranges from 16°C (50°F) to 25°C (77°F). Humidity levels are high and average values vary between 73% and 90%. Annual rainfall is 1,778mm, mostly during summer.

Autumn (October - December) is the most pleasant season. Days are sunny and warm and humidity levels are low. Winter (January - March) is cold but sunny. In April humidity increases and from May to September the climate becomes hot, humid and rainy with occasional tropical storms (typhoons).

Banking
Banks are generally open Monday to Friday between 9:00a.m. to 5:30p.m.

Electricity
Electricity in Macau is at 220V, 50Hz. The power plugs used in Macau are of the three-pin, square-shaped or round-shaped type. It is suggested to check before using an electrical appliance.

Post a postcard
The postal services of Macau are comprehensive. The headquarters is located at Senado Square and postal branches are throughout Macau peninsula, Taipa & Coloane. It provides letter post, parcel & express mail services to everywhere in the world. You can post your postcard or letter at the vending machines located in different areas of the city, which provide round-the-clock postal services.

Information for Session Chairs and Presenters

Facilities at the Presentation Room
Each presentation room is equipped with a PC (running Windows) and a video projector connected to PC. If something is not working properly, please contact the volunteer who will be in charge of the room (a volunteer is assigned to each room during the presentations).

Presentation Time
The presentation time allocated to each conference paper is given on the timetable (including questions and answers): 20 minutes for regular papers and 10 minutes for short papers.

Session Chairs
If you cannot fulfill your duties as a session chair, please ensure that someone else will take your place as the session chair and inform the Conference Chair.

Session chairs are kindly requested to help with the followings:

1. Note the time allocated for each paper in your session. Each paper is allocated 20 minutes (15 to 17 minutes for the presentation plus 3 to 5 minutes for discussion) for regular papers and 10 minutes (6 to 8 minutes for the presentation plus 2 to 4 minutes for discussions) for short papers.
2. Arrive at the room of the session at least 5 minutes before the session starts and identify each of the speakers for the session.

3. Suggest each speaker to keep corresponding time for discussions (questions and answers), and for transition to the next presentation. If a presentation extends into the time for discussions, please shorten the discussions accordingly or postpone the discussions until after the session.

4. Do not allow presentations or the subsequent discussions to spill beyond the starting time of the next presentation.

5. If the presenter of a paper is absent (no-show), please continue to the next presentation. Please check again at the end of the last presentation whether the no-show shows up. Best efforts have been made to reduce the number of no-shows; however, they may not be eliminated. After your session, please inform the Conference Chair of the paper(s) that have not been presented.

Presenters

Please check your presentation time and room. Please go to the room 5 minutes before the session starts and identify yourself to the session chairs.

1. Note the time allocated for each paper is 20 minutes (15 to 17 minutes for the presentation plus 3 to 5 minutes for discussion) for regular papers and 10 minutes (7 to 8 minutes for the presentation plus 2 to 3 minutes for discussions) for short papers.

2. When it is your turn to present, please leave corresponding time for discussion (questions and answers), and for transition to the next presentation. If your presentation extends into the time for discussions, discussions on your paper will be shortened by the session chair accordingly or postponed until after the session.

3. Please do not exceed your allocated time. Please follow the instructions of the Session Chairs.

If you cannot find your name in Sessions or your information is incorrect in the Program Booklet, please contact the Conference Chairs.

Social Events

Welcome Reception

Tuesday, 4 December
6:30 p.m. – 8:30 p.m.
Macao Science Center Convention Hall
Avenida Dr. Sun Yat-Sen
Macao Science Center
Macao

Conference Banquet

Thursday, 6 December
7:00 p.m. – 9:00 p.m.
Macau Fisherman’s Wharf Convention and Exhibition Centre
1/F., Rome, Avenida da Amizade e Avenida Dr. Sun Yat-Sen
Macao
Discovering Macau

A Brief History of Macau

In the early 1550s the Portuguese reached Ou Mun, which the locals called A Ma Gao, “place of A Ma”, in honor of the Goddess of Seafarers, whose temple stood at the entrance to the sheltered Inner Harbour. The Portuguese adopted the name, which gradually changed into the name MACAU.

Macau is one of the world’s most culturally diverse cities. When the Portuguese arrived on the shores of Macau in the 16th century, they brought with them their own cultural, religious and culinary traditions. These Mediterranean influences have blended and co-existed peacefully with the local Chinese culture for more than four centuries.

Since 20th December 1999, Macau returned back to China and is a Special Administrative Region of the People’s Republic of China and benefits from the principle “one country, two systems”.

The Historic Centre of Macau

On 15th July 2005, “The Historic Centre of Macau” was successfully inscribed as a World Heritage Site, making it the 13th site in China to be granted this status.

The Historic Centre of Macau encompasses architectural legacies interwoven in the midst of the original urban fabric that includes streetscapes and piazzas. These major urban squares and streetscapes provide the linkage for a succession of over twenty monuments, including A-Ma Temple, Moorish Barracks, Mandarin’s House, St. Lawrence’s Church, St. Joseph’s Seminary and Church, Dom Pedro V Theatre, Sir Robert Ho Tung Library, St. Augustine’s Church, “Leal Senado” Building, Sam Kai Vui Kun (Kuan Tai Temple), Holy House of Mercy, Cathedral, Lou Kau Mansion, St. Dominic’s Church, Ruins of St. Paul’s, Na Tcha Temple, Section of the Old City Walls, Mount Fortress, St. Anthony’s Church, Casa Garden, the Protestant Cemetery and Guia Fortress (including Guia Chapel and Lighthouse) altogether known as “The Historic Centre of Macau”.

Website of Macau World Heritage: http://www.wh.mo

Dining in Macau

Macau is famous for its cuisine and for the quality of the food served by the territory’s restaurants and hotels. It is hard to find another city with such a concentration of restaurants offering so many different cuisines to suit so many tastes at all kinds of budget. In fact food has always played a major part in Macau society and is a good reflection of the community’s long multicultural experience and present cosmopolitan way of life.

Over the centuries Macau developed a unique cuisine, “Macanese cuisine” that combined elements of Portuguese, Chinese, Indian, and even Malay cooking. Among the most popular dishes are African Chicken (grilled in piri piri peppers), Tacho (a hearty stew of Chinese vegetables and different meats), Galinha Portuguesa (Chicken cooked in the oven together with potatoes, onions, egg and saffron), Minchi (minced beef with fried potatoes, soy, onions and a fried egg), Linguado Macau (Macau sole fried and usually served with green salad) and Porco balichao (Balichao’ pork). And for dessert try Jagra de ovos (sweet egg tart).

Food from other parts of the world is readily available in Macau and there are plenty of excellent restaurants serving Italian, French, American, Brazilian, Japanese, Korean and Mozambique cuisine as well as dishes from Southeast Asia, such as Thailand, Burma, Indonesia, Malaysia and Singapore.

Shopping in Macau - a pleasure and an adventure

Macau is a place where you can purchase almost anything, and have a wonderful time doing it. Luxury items are cheaper here than in other cities in the region. Jewellery (particularly 24-carat gold), cameras, porcelain, electronic items, mobile phones, watches, cashmere sweaters and silk clothing are available at very reasonable prices. It is also a great treasure trove for Chinese antiques and collectibles. You can find here ancient coins, 19th century stocks and shares, stamps and other printed material (Rua das Estalagens and Rua da Tercena); boxes of tea (Rua Cinco de Outubro) and coffee from around the world (Estrada do Cemiterio and Avenida do Coronel Mesquita); traditional shops where tea is displayed in wooden drawers and glass goblets; and countless old Chinese Pharmacies packed with traditional medicines (Rua de S.Paulo and Rua de Pedro Nolasco da Silva).

Source: Macau Government Tourism Office
### Program At Glance

#### Tuesday December 4, 2012

<table>
<thead>
<tr>
<th>Time</th>
<th>Parallel Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30-10:30</td>
<td>Room 1: WI-IAT WS1</td>
</tr>
<tr>
<td></td>
<td>Macau Fisherman's Wharf Convention and Exhibition Centre</td>
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<tr>
<td>10:30-10:45</td>
<td>Coffee Break</td>
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<tr>
<td></td>
<td>Macau Fisherman's Wharf Convention and Exhibition Centre</td>
</tr>
<tr>
<td>12:45-14:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00-16:00</td>
<td>Room 1: WI-IAT WS2</td>
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<tr>
<td></td>
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<tr>
<td>16:00-16:15</td>
<td>Coffee Break</td>
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<tr>
<td></td>
<td>Macau Fisherman's Wharf Convention and Exhibition Centre</td>
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<tr>
<td>18:30-20:30</td>
<td>Welcome Reception</td>
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<td></td>
<td>Macao Science Center</td>
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#### Wednesday December 5, 2012

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09:00-09:30</td>
<td>Opening Speech Macau Fisherman's Wharf Convention and Exhibition Centre</td>
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<tr>
<td>09:30-10:30</td>
<td>Turing Keynote: Extreme Ture-ing In The Spectrums Of AI Prof. Edward Felgenbaum Macau Fisherman's Wharf Convention and Exhibition Centre</td>
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<tr>
<td>10:30-10:50</td>
<td>Coffee Break</td>
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<tr>
<td>10:50-12:50</td>
<td>Parallel Sessions</td>
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<tr>
<td>13:00-14:00</td>
<td>Lunch</td>
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<tr>
<td>14:00-15:00</td>
<td>WI Keynote: Anytime Anywhere Computational Social Systems Prof. Eunice E. Santos Macau Fisherman's Wharf Convention and Exhibition Centre</td>
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<tr>
<td>15:00-15:20</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>15:20-17:20</td>
<td>Parallel Sessions</td>
</tr>
</tbody>
</table>

#### Notes:
- xx-xx-W55: Workshop Session
- xx-xx-T55: Tutorial Session
- WI-IAT: WI-IAT 2012 Industry Poster Session
- WI-IAT-D: WI-IAT 2012 Demo Poster Session
### Thursday December 6, 2012

**09:00 - 10:00**  
Bias Keynote: Digital Clone: Possible or Impossible?  
Prof. Jianhua Ma  
Macau Fisherman’s Wharf Convention and Exhibition Centre

**10:00 - 11:00**  
ISMS Keynote: Personalization with User-Tailored Privacy  
Prof. Alfred Kobsa  
Macau Fisherman’s Wharf Convention and Exhibition Centre

**11:00 - 11:20**  
Coffee Break

**11:20 - 13:00**  
Parallel Sessions  
<table>
<thead>
<tr>
<th>Room1</th>
<th>Room2</th>
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<td>W1S7</td>
<td>W1S8</td>
<td>IAT5S</td>
<td>IAT6S</td>
<td>ISMSS3</td>
<td>ISMSS4</td>
<td>AMTS3</td>
<td>B1S3</td>
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</tbody>
</table>

Macau Fisherman’s Wharf Convention and Exhibition Centre

**13:00 - 14:00**  
Lunch  
WI-IAT-I: 12:45-14:15 (Lobby)  
WI-IAT-D: 12:45-14:15 (Lobby)

**14:00 - 16:00**  
Parallel Sessions  
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<td>IAT5S</td>
<td>IAT7S</td>
<td>ISMSS3</td>
<td>AMTS4</td>
<td>AMTS5</td>
<td>B1S4</td>
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</table>

Macau Fisherman’s Wharf Convention and Exhibition Centre

**16:00 - 16:20**  
Coffee Break  
Macau Fisherman’s Wharf Convention and Exhibition Centre

**16:20 - 18:00**  
Turing-Year Panel: Top 10 Fundamental Questions and Challenges in Intelligent Informatics/Computing (Top10Q)  
Macau Fisherman’s Wharf Convention and Exhibition Centre

**19:00 - 21:00**  
Conference Banquet  
Macau Fisherman’s Wharf Convention and Exhibition Centre

**Remark:**  
xx-xxx-Wx: Workshop Session  
xx-xxx-Sx: Special Session x  
xw-xxx-SSx: Tutorial Session  
xw-IAT-I: WI-IAT’2012 Industry Poster Session  
xw-WS-SS: Workshop Session (session 1)  
xw-IAT-D: WI-IAT’2012 Demo Poster Session

### Friday December 7, 2012

**09:00 - 10:00**  
AMT Keynote: Soft Granular Mining: Concepts, Features, Applications and Challenges  
Prof. Sankar Pal  
Macau Fisherman’s Wharf Convention and Exhibition Centre

**10:00 - 11:00**  
IAT Keynote: Making Good Decisions  
Prof. Sven Koenig  
Macau Fisherman’s Wharf Convention and Exhibition Centre

**11:00 - 11:20**  
Coffee Break

**11:20 - 13:00**  
Parallel Sessions  
<table>
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<th>Room1</th>
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<th>Room5</th>
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<td>AMTS7</td>
<td>B1S5</td>
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Macau Fisherman’s Wharf Convention and Exhibition Centre

**13:00 - 14:00**  
Lunch

**14:00 - 15:40**  
Parallel Sessions  
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<td>WI-IAT</td>
<td>WI-IAT</td>
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<td>B1S6</td>
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Macau Fisherman’s Wharf Convention and Exhibition Centre

**15:40 - 16:00**  
Coffee Break

**16:00 - 17:40**  
Parallel Sessions  
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<td>ISMSS9</td>
<td>AMTS10</td>
<td>AMTS11</td>
<td>B1S7</td>
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</table>

Macau Fisherman’s Wharf Convention and Exhibition Centre

### Saturday December 8, 2012

**09:30 - 12:30**  
Macau Heritage Site Half Day Tour  
Macau Heritage site
Conference Program

WI-IAT 2012 Workshop Program

December 4, 2012

Session (WI-IAT-WS1): International Workshop on Optimization-based Data Mining and Web Intelligence (ODMWI 2012)
Session Time: 8:30am-12:45pm

Session Chairs:
Yong Shi (University of Nebraska at Omaha, USA; Chinese Academy of Sciences Research Center on Fictitious Economy and Data Science, China)
Haolan Zhang (Zhejiang University, China)
Lingfeng Niu (Chinese Academy of Sciences Research Center on Fictitious Economy and Data Science, China)

S1201 A Simple and Fast Multi-Instance Classification Via Support Vector Machine
Zhiquan Qi, Yingjie Tian, and Yong Shi

S1202 Efficient Implementation of Nonparallel Hyperplanes Classifier
Xuchan Ju and Yingjie Tian

S1203 Learning Using Privileged Information with L-1 Support Vector Machine
Lingfeng Niu, Yong Shi, and Jianmin Wu

S1204 Real-Time Vehicular Traffic Violation Detection in Traffic Monitoring Stream
Guoyu Ou, Yang Gao, and Ying Liu

S1206 Modeling Return Rate Correlation Between Shanghai and Shenzhen Stock Markets using Copula Function
Yibing Chen, Lingling Zhang, and Yong Shi

S1207 Empirical Research on the Total Factor Productivity of Chinese Software Companies
Ye Wang, Caiming Zhang, Guanghua Chen, and Yong Shi

S1208 Database Keyword Search: A Perspective from Optimization
Zhengxin Chen, Rajvardhan Patil, and Yong Shi

Session (WI-IAT-WS2): International Workshop on Behavior Informatics (BI 2012)
Session Time: 2:00pm-6:15pm

Session Chairs:
Takashi ONODA (Central Research Institute of Electric Power Industry, Japan)
Seiji YAMADA (National Institute of Informatics, Japan)
Yasufumi TAKAMA (Tokyo Metropolitan University, Japan)

S3201 Investigation of Potency-magnitude Relations of eWOM Messages with a Focus on the Distinction Between Attitude Direction and Strength
Kazunori Fujimoto

S3202 Clustering based on independent components
Takahiro Nishigaki and Takashi Onoda

S3203 Clustering with Extended Constraints by Co-Training
Masayuki Okabe and Seiji Yamada

S3204 User and Item Modeling Methods Using Customer Reviews towards Recommender System Based on Personal Values
Shunichi Hattori and Yasufumi Takama

S3206 Semantic-Feature-Based Object Recognition by Using Internet Data Mining
Jing Xu, Shogo Okada, and Katsumi Nitta
Session (WI-IAT-WS4): International Workshop on Tourism Facilities (TF’12)
Session Time: 2:00pm-6:15pm
Session Chairs:
Ranieri Baraglia (ISTI-CNR, Pisa, Italy)
Franco Maria Nardini (ISTI-CNR, Pisa, Italy)
Rossano Venturini (University of Pisa, Pisa, Italy)
S4202 RecTour: A Recommender System for Tourists
Ranieri Baraglia, Claudio Frattari, Cristina Muntean, Franco Maria Nardini, and Fabrizio Silvestri
S4203 Applicability of Demographic Recommender System to Tourist Attractions: A Case Study on TripAdvisor
Yuanyuan Wang, Stephen Chi-fai Chan, and Grace Ngai
S4204 Designing an Information Gathering Application for a Personalized Travel Recommender System
Conrad Ciobanica, Filip Tudic, and Radu Razvan Slavescu
S4205 Travel With Words
Fabio Massimo Zanzotto and Alexandra Gabriela Tudorache
S4207 A Personalized Trust-Aware Model for Travelogue Discovering
Shilong Zhang, Richong Zhang, Xudong Liu, and Hailong Sun

Session (WI-IAT-WS5): International Workshop on Natural Language Processing and Ontology Engineering (NLPOE 2012)
Session Time: 8:30am-12:45pm
Session Chairs:
Yao Liu (Institute of Scientific and Technical Information of China, China)
Pengyuan Liu (Beijing Language and Culture University, China)
Sujian Li (Peiking University, China)
SS201 Algorithmic Semantics of Ambiguous Modifiers with the Type Theory of Acyclic Recursion
Roussanka Loukanova
SS203 Relevance Feedback Fusion via Query Expansion
Chen Chen and Chunyan Hou
SS205 Chinese Semantic Role Labeling Based On Genetic Algorithm
Mao Ning, Shao Yanqiu, and Liang Chunxia
SS206 Using Multiple Resources in Graph-Based Semi-supervised Sentiment Classification
Ge Xu
Wr275 An approach to identify ememes on the blogosphere
Gloria Bordogna and Gabriella Pasi

Session (WI-IAT-WS6): The International Workshop on Nature-Inspired Computing and Metaheuristics for Web Intelligence (NiCaM-WI 2012)
Session Time: 2:00pm-6:15pm
Session Chairs:
Simon Fong (University of Macau, Macau)
Suash Deb (President, International Neural Network Society (INNS) India Regional Chapter)
Xin-She Yang (University of Cambridge, UK)
S7201 Bees Swarm Optimization for Web Association Rule Mining
Djenouri Youssef, Drias Habiba, and Zineb Habbas
S7202 Nature-inspired Clustering Algorithms for Web Intelligence Data
Rui Tang, Simon Fong, Xin-She Yang, and Suash Deb
Wr265 Bees Swarm Optimization for Real Time Ontology based Information Retrieval
Hadia Mosteghanemi and Habiba Drias

Session (WI-IAT-WS7): International Workshop on Web Personalization, Recommender Systems and Social Media (WPRSM 2012)
Session Time: 8:30am-6:15pm
Session Chairs:
Yue Xu (Queensland University of Technology, Australia)
Hui Wang (University of Ulster, UK)
Li Chen (Hong Kong Baptist University, China)
Niall Rooney (University of Ulster, UK)
Yuefeng Li (Queensland University of Technology, Australia)
S6201 Personalized Tweet Ranking based on AHP
Yuhong Guo
S6204 Integration of Opinion into Customer Analysis Model
Mohd Ridzwan Yaakub, Yuefeng Li, Abdulmohsen Algarni, and Bo Peng
S6203 Using Multidimensional Clustering Based Collaborative Filtering Approach Improving Recommendation Diversity
Xiaohui Li
S6207 Semi-metric networks for recommender systems
Tiago Simas and Luis Rocha
SE201 Research on Mining Common Concern via Infinite Topic Modelling
Yishu Miao and Chunping Li
SE202 Predicting Mental Health Status in the Context of Web Browsing
Dong Nie, Yue Ning, and Tingshao Zhu
S6206 Matching Relevance Features with Ontological Concepts
Yan Shen, Yuefeng Li, Yue Xu, and Xiaoqiang Tao
Session (WI-IAT-WS8): Fifth International Workshop on Web Information Retrieval Support Systems (WIRSS)
Session Time: 2:00pm-6:15pm

Session Chairs:
Orland Hoeber (University of Regina, Canada)
Yiyu Yao (University of Regina, Canada)

S8201 Ranking Documents by Query Topic Sensitivity
Shota Hatakenaka, Satoshi Shimada, and Takao Miura

I-Chin Wu, Guan-Wei Chen, Chun-Yu Lin, and Yu-Kai Lin

S8203 Computing Semantic Relatedness Based on Search Result Analysis
Jiangjiao Duan and Jianping Zeng

S8204 Ontology based scope visualisation
Julien Tscherrig, Francesco Carrino, Maria Sokhn, Elena Mugellini, and Omar Abou Khaled

Session (WI-IAT-WS9): The 2nd International Symposium on Web Intelligent Systems & Services (WISS 2012)
Session Time: 10:45am-12:45pm

Session Chairs:
Dickson K. W. Chiu, Dickson Computer Systems, Hong Kong
Hideyasu Sasaki, Ritsumeikan University

SG201 Transportation Logistics Service from Cloud
Vladimir Gorodetsky, Oleg Karsaev, Victor Konyushiy, and Vladimir Samoylov

Wr310 CA-ABAC: Class Algebra Attribute-Based Access Control
Daniel Buehrer and Chun-Yao Wang

Wr340 Recognizing valid artifacts in business processes
Qi He

Session Time: 8:30am-12:45pm

Session Chairs:
Yuri Tijerino (Kwansei Gakuin University),
Jeffrey M. Bradshaw (Florida Institute for Human and Machine Cognition - IHMC)
Andrzej Uszok (Florida Institute for Human and Machine Cognition - IHMC)
Tarek Helmy (King Fahd University of Petroleum and Minerals)
Vaclav Petricek, eHarmony.com, Czech Republic

S9202 Multilingual Food and Health Ontology Learning Using Semi-Structured and Structured Web Data Sources
Saeed Albukhitan and Helmy Tarek Helmy

S9203 Ontology-based automatic receipt accounting system
Zhinian shen and Yuri Tijerino

S9204 A Cross-language approach for semantic recipe annotation and nutrition annotation augmentation based on extraction ontologies and culture-relevant policy reasoning
Zheng Meng Long and Yuri Tijerino

SA202 Toward a Cross-Cultural and Cross-Language Multi-Agent Recommendation Model for Food and Nutrition
Ahmed AlNazer and Tarek Helmy

SA203 Policy-Based Governance Within Luna: Why We Developed Yet Another Agent Framework
Larry Bunch, Marco Carvalho, Jeffrey M. Bradshaw, Tom Eskridge, Paul J. Feltovich, James Lott, and Andrzej Uszok

Session (WI-IAT-WS11): International Workshop on Social Networks and Data Processing (SNDP 2012)
Session Time: 2:00pm-6:15pm

Session Chairs:
Hao Lan Zhang (NIT, Zhejiang University China)
Chaoyi Pang (CSIRO, Australia)
Gansen Zhao (South China Normal University, China)

SF203 Marketing Positioning System Designing Based on Extenics
Li Mei Zhou, Yongqing Zhang, and Hao Lan Zhang

SF204 Semantic Image Retrieval Using Collaborative Indexing and Filtering
Clement Leung and Yuansi Li

SF205 What is the Value of Your Network?
Alexandre Barão and Alberto Rodrigues da Silva

SF207 Isolated Word Speech Recognition Based On HRSF and Improved DTW Algorithm
Xiaohui Hu, Gansen Zhao, and Yun Xue

SF208 Discovery of interesting users in Twitter by overlapping propagation paths of retweets
Yusuke Ota, Kazutaka Maruyama, and Minoru Terada

Wr295 Not Every Friend on a Social Network Can be Trusted: An Online Trust Indexing Algorithm
Rui Tang, Luke Lu, Yan Zhuang, and Simon Fong
Session (WI-IAT-WS12): International Symposium on the Intelligent Campus (iCampus) – IC’12

Session Time: 8:30am-6:15pm

Session Chairs:
Jason W.P. Ng (Etisalat BT Innovation Center, UAE)
Vic Callaghan (University of Essex, UK)
Rob Reilly (MIT Media Lab, USA)

SB201  CAViAR: Context Aware Visual indoor Augmented Reality for a University Campus
Buti Al Delail, Luis Weruaga, and Mohamed Jamal Zemerly

SB203  Intelligent Campus (iCampus) Impact Study
Nora Aion, Linda Helmandollar, Minjuan Wang, and Jason Ng

SB204  Design and Implementation of a Cloud-Learning Service Platform
Jun Xiao, Minjuan Wang, LaMei Wang, Xiaoxiao Zhu, and Jason Ng

SB206  Surfing Notes: an Integrated Web Annotation and Archiving Tool
Sisi He and Edward Chan

SB207  Semi-Supervised Latent Dirichlet Allocation and its Application for Document Classification
Di Wang, Marcus Thint, and Ahmad Al-Rubaie

SB210  ABKD: Multimodal Mobile Language Game for Collaborative Learning of Chinese Hanzi and Japanese Kanji Characters
Michael Syson, Ma. Regina Estuar, and Karl See

SB211  Cognitive-Educational Constraints for Socially-Relevant MALL Technologies
Tania Cerni and Remo Job

SB212  MOOC: Is There An App For That?
Patricia A. Machun, Catherine Trau, Nadia Zaid, Minjuan Wang, and Jason Ng

SB213  Learning writing by reading in Web-based classroom
Zhong Sun, Yuhui Ma, and Minhua Wu

SB214  An MAS Approach to Course Offering Determination
Fuhua Lin, AJ Armstrong, and Alex Newcomb

SB218  Indoor Localization and Guidance using Portable Smartphones
Omran Al Hammadi, Ahmed Al Hebsi, Jamal Zemerly, and Jason Ng

SB219  Investigation and Prototype Design of Collaborative Virtual Learning Environments
Mohammad Saleem Darwaish and Fang Wang

SB220  Personalising the iCampus; an End-User Programming approach
Jeannette Chin, Vic Callaghan, and Adrian Winckles

SB221  Enabling the Next Generation Learning Environment
Benjamin Hirsch, Ahmad Al-Rubaie, Di Wang, Christian Guttmann, and Jason Ng

SB222  NoobLab: An Intelligent Learning Environment for Teaching Programming
Paul Neve, Gordon Hunter, David Livingstone, and James Orwell

SB223  Remote mixed reality collaborative laboratory activities: Learning activities within the InterReality Portal
Anasol Pena-Rios, Vic Callaghan, Michael Gardner, and Mohammed J Alhaddad

Session (WI-IAT-WS13): 3rd International Workshop on Green Computing and Sustainable Society (GCSS)

Session Time: 8:30am-6:15pm

Session Chairs:
Takayuki Ito (Nagoya Institute of Technology) JAPAN
Gokiso, Showa, Nagoya 466-8555, Japan

SC201  Prototype of New Business process Visualization Tool
Akihiko Nagai and Takayuki Ito

SC202  Skin Segmentation Based on Human Face Illumination Feature
Pan Ng and Chi-Man Pun

SC203  Self-adjustable Trust-based Energy Efficient Routing for Smart Grid Systems
Ming Xiang, Quan Bai, and William Liu

SC204  Evaluation of the reputation network using realistic distance between Facebook data
Takanobu Otsuka, Takuya Yoshimura, and Takayuki Ito

SC205  Evaluation of Parking Reservation System with Auction Including Electricity Trading
So Hashimoto, Ryo Kanamori, Takayuki Ito, and Shantanu Chakraborty

SC206  A Preliminary Experimental Analysis on Combinatorial Auction-based Electric Power Allocation for Manufacturing Industries
Naoki Fukuta and Takayuki Ito

SC207  A Preliminary Study on Anticipatory Stigmergy for Traffic Management
Jun Takahashi, Ryo Kanamori, and Takayuki Ito
ISMIS 2012 Workshops
December 4, 2012

Session (ISMIS-WS-S1): International Workshop on Domain Knowledge in Knowledge Discovery (DKKD’12)

Session Time: 8:30am-6:15pm
Session Chair: Dominik Ślęzak, University of Warsaw, Poland

Formal Framework for Data Mining with Association Rules and Domain Knowledge
Jan Rauch

Maintenance of Domain Knowledge for Nursing Care using Data in Hospital Information System
Haruko Iwata, Shoji Hirano and Shusaku Tsumoto:

Utilization of Domain Knowledge in Metadata Organization: The Case Study of Alphanumeric Columns in Infobright’s RDBMS
Puntip Pattaraintakorn, Marcin Kowalski, Dominik Ślęzak and Graham Toppin

Search result clustering based on query context
Michał Meina and Hung Son Nguyen

Using Domain Knowledge in Initial Stages of KDD: Optimization of Compound Object Processing
Marcin Szczuka, Adam Krasuski, Łukasz Sosnowski and Karol Kreński


Session Time: 2:00pm-6:15pm
Session Chair: Benjamin C. M. Fung, Concordia University, Canada

Privacy Issues in SOAP Message Exchange Pattern for Social Services
Wuhui Chen, Incheon Paik, and Patrick C. K. Hung

Locality Sensitive Hashing Filter for Encrypted Vector Databases
Junpei Kawamoto

Limiting Data Exposure in Multi-Label Classification Processes
Nicolas Anciaux, Danae Boutara, Benjamin Nguyen, and Michalis Vazirgiannis

WI-IAT 2012 Tutorials
December 4, 2012

Tutorial 1 (WI-IAT-TS1): Behavior Computing: Complex Behavior Modeling, Analysis and Mining (8:30am-12:45pm)

Instructors: Longbing Cao, Philip S Yu, Can Wang

Abstract:
Complex behaviors are widely seen on the internet, social and online networks, multi-agent systems, and brain systems. The in-depth understanding of complex behaviors has been increasingly recognized as a crucial means for disclosing interior driving forces, causes and impact on businesses in handling many challenging issues. This forms the need and emergence of behavior computing, i.e. understand behaviors from informatics perspective.

Traditional behavior modeling mainly relies on qualitative methods from behavioral science and social science perspectives. These so-called behavior analysis often focuses on human demographic and business usage data, in which behavior-oriented elements are hidden in routinely collected transactional data. As a result, it is ineffective or even impossible to deeply scrutinize native behavior intention, lifecycle, dynamics and impact on complex problems and business issues. In this tutorial, we present an overview of behavior computing, and discuss complex behavior representation, behavioral feature construction, behavior impact analysis, behavior pattern analysis, negative behavior analysis, behavior interaction and evolution. Several real-world case studies are demonstrated, including analyzing exceptional market microstructure behaviors, mining for high impact social security behavior patterns, detecting abnormal coupled trading behaviors, and analyzing online banking behavior interactions. We show that behavior computing creates new opportunities, directions and means for quantitative, formal and systematic modeling, learning and analysis of complex behaviors in both physical and virtual organizations.

Instructor: Fabio Massimo Zanzotto

Tutorial 2 (WI-IAT-TS2): Recognizing Textual Entailment for Web-based Question-Answering (2:00pm-6:15pm)

Instructor: Fabio Massimo Zanzotto

Abstract:
After shortly motivating and introducing the general task and the evaluation model, the main part of the course is a methodological presentation of some of the key computational approaches proposed to the overall task, organized by major components. In the last part of the course, we describe the view of Semantics that RTE suggests and how applications can use RTE systems.
WI-IAT 2012
Industry Poster Session (WI-IAT-I)

Chaired by Dr. Ryan Leang Hou U

December 6, 2012
(12:45pm-2:15pm)

N202 A Re-configurable Context-aware Engine for Mobile Devices
Sangdo Park, Su Myeon Kim, Samsung Electronics, Korea

N203 Context Aware Intelligent Mobile Platform for Local Service Utilization
Paul Barom Jeon, Samsung Electronics, Korea

WI-IAT 2012
Demo Poster Session (WI-IAT-D)

Chaired by Dr. Ryan Leang Hou U

December 6, 2012
(12:45pm-2:15pm)

M201 Flickr Retriever - Fast Retrieval of Flickr Photos
David Edmundson and Gerald Schaefer, Loughborough University, U.K.

Amyn Bennamane and Hakim Hacid, Alcatel-Lucent Bell-Labs, France

WI-IAT 2012 Special Sessions
December 7, 2012

Session (WI-IAT-SS1): Online Social Network, Intelligent Data Processing, Multi-agent Systems
Session Time: 2:00pm-3:40pm, Session Chair: Prof. Haolan Zhang
SI101 PMING: A collaborative semantic proximity measure
Alfredo Miliani and Valentina Franzoni
SI102 Inferring User Context from Spatio-Temporal Pattern Mining for Mobile Application Services
Daniel Pereira and Luis Loyola
SI103 A personalized recommendation algorithm based on approximating the singular value decomposition (ApproSVD)
Xun Zhou, Yanchun Zhang, Jing He, and Guangyan Huang
SI104 An Innovation Alliance Model Based on Extencis and Multi-Agent
Xingsen Li, Zhongbiao Xiang, and Haolan Zhang
SI105 Social Recommendation Based on Multi-relational Analysis
Jian chen, Gansen Zhao, and Jin Huang

Session (WI-IAT-SS2): Intelligent Methodology and Applications - Part I
Session Time: 2:00pm-3:40pm, Session Chairs: Prof. Wang Yuping and Prof. Yin Qian
SW201 Power Allocation Algorithm Based on Non-cooperative Game Theory for LTE Downlink
Yaping Tian, Hailin Liu, Zhirong Li
SW202 An energy and data locality aware Bi-level Multiobjective Task Scheduling Model based on MapReduce for Cloud Computing
Xiaoli Wang and Yuping Wang
SW203 A New Architecture of an Intelligent Agent-Based Crawler for Domain-Specific Deep Web Databases
Yanni Li, Yuping Wang and Erfeng Tian
SW204 Sample Outlier Detection based on Local Kernel Regression
Qinmu Peng and Yiu-ming Cheung
SW205 S-SIFT: A Shorter SIFT without Least Important Visual Orientation
Sheng-hua Zhong and Yan Liu

Session (WI-IAT-SS3): Large-Scale Application-focused Multiagent Systems
Session Time: 4:00pm-5:40pm, Session Chair: Prof. Lau Hoong Chuin
SI301 Hierarchical Bayesian Nonparametric Approach to Modeling and Learning the Wisdom of Crowds of Urban Traffic Route Planning Agents
Jiangbo Yu, Kian Hsiang Low, Ali Oran, Patrick Jaillet
SI302 Challenges and Opportunities for Trust Management in Crowdsourcing
Han Yu, Zhiqi Shen, Chunyan Miao, and Bo An

SI303 Lagrangian Relaxation for Large-Scale Multi-Agent Planning

Yuko Sakurai and Makoto Yokoo

SI305 Self-organizing Agents for Efficient Sustainable Resource Utilization
Benyun Shi and Jiming Liu

Session (WI-IAT-SS4): Intelligent and Affective Computing
Session Time: 4:00pm-5:40pm, Session Chair: Prof. Li Qing

SW101 Customizable Surprising Recommendation based on the Tradeoff between Genre Difference and Genre Similarity
Qianru Zheng, Horace H S IP

SW102 An Intelligent Search Mechanism based on Social-Like User Interests Modeling
Martin M. Weng, Neil Y. Yen, Jason C. Hung and Timothy K. Shih

SW103 Integrating Tags and Ratings into User Profiling for Personalized Search in Collaborative Tagging Systems
Yi Cai, Hao Han, Raymond Y.K. Lau, Yifeng Shao, Ho-fung Leung and Huaqing Min

SW104 Detecting Common Interest Kernels in Large Social Networks
Weishu Hu, Leong Hou U, Zhiguo Gong

SW105 A Machine-oriented Text Understanding Framework based on Human Memory and Reading Process
Jun Zhang, Xiangfeng Luo and Feiyue Ye

Session (WI-IAT-SS5): Intelligent Methodology and Applications - Part II
Session Time: 4:00pm-5:40pm, Session Chairs: Prof. Roger Mailler and Prof. Yin Qian

SW206 A heuristic Reinforcement Learning with State Backtracking
Hao Li, Min Fang

SW207 Synchronizability and navigability of small-world networks generated by one dimension Kleinberg model
Chen Xu, Jingyi Wang and Jianwen Feng

SW208 A genetic algorithm to filter SNPs for SNP association study.
Junying Zhang, Xiaotao He, Xiaoxue Zhao and Baodi Chen

SI202 Sensitivity analysis of fuzzy inference neural network and the application in band selection
Qiang Fan, Dan Hu, and Yan Xing

SI205 Semantic Similarity Analysis between High-Level Model Description Text and Low-Level Implementation Text for Network Survivability
Zhao Wei, Chunhe Xia, Qing Wei, Yujian Zhou, Shan Yao

IAT 2012 Program
Wednesday, December 5, 2012

Session (IAT-S1): Distributed Problem Solving
Session Time: 10:50am-12:50pm, Session Chair: Prof. Roger Mailler

Regular Papers:
Ir211 Friction Based Social Force Model for Group Behaviors
Zhaofeng Li and Yichuan Jiang

Ir236 Improving Asynchronous Partial Overlay
Roger Mailler

Ir254 Join Me with the Weakest Partner, Please
Moshe Mash, Igor Rochlin, and David Sarne

Ir269 Considering Equality on Distributed Constraint Optimization Problem for Resource Supply Network
Toshihiro Matsui and Hiroshi Matsuo

Short Papers:
Ir214 Maximal Flexibility and Optimal Decoupling in Task Scheduling
Leon Endhoven, Tomas Klos, and Cees Witteveen

Ir222 Improving Asynchronous Search for Distributed Generalized Assignment Problem
Tingting Sun, Yang Xu, and Qingyi He

Session (IAT-S2): Applications
Session Time: 10:50am-12:50pm, Session Chair: Prof. Hoong Chuin Lau

Regular Papers:
Ir255 Why do people use Social Media? - Agent-based simulation and population dynamics analysis of the evolution of cooperation in social media
Fujio Toriumi, Hitoshi Yamamoto, and Isamu Okada

Ir280 Hidden Source Behavior Change Tracking and Detection
Eugene Santos, Qi Gu, Eunice Santos, and John Korah

Ir292 Agent-based Virtual Humans in Co-Space: An Evaluative Study
Yilin Kang, Ah Hwee Tan, and Fiona Fui-Hoon Nah

Ir278 Online Localized Resource Allocation Application to Urban Parking Management
Nesrine Bessghaier, Mahdi Zargayouna, and Flavien Balbo

Short Papers:
Ir220 Green-waved Cooperative Coordination Algorithm for Decentralized Traffic Control
Yulin Zhang, Yang Xu, Tingting Sun, and Pengfei Liu
Conference Program

Ir233 Predicting the State of a Person by an Office-use Autonomous Mobile Robot
Asuki Kouno, Daisuke Takayama, and Einoshih Suzuki

Ir291 A Mechanism for Organizing Last-Mile Service Using Non-Dedicated Fleet
Shih-Fen Cheng, DucThien Nguyen, and Hoong Chuin Lau

Ir217 Agent-based Modeling and Simulation of Multi-organizational Interactions in International Trade
Jie Jiang, Virginia Dignum, Shengyu Wu, and Yao-Hua Tan

Session (IAT-S3): Auctions and Negotiation
Session Time: 3:20pm-5:20pm, Session Chair: Prof. Hofung Leung

Regular Papers:
Ir215 ABlNeS: An Adaptive Bilateral Negotiating Strategy over Multiple Items
Jianye Hao and Ho-fung Leung

Ir218 Reduction of Market Power and Stabilisation of Outcomes in a Novel and Simplified Two-Settlement Electricity Market
Nicolas Höning and Han La Poutré

Ir252 On the Choice of Obtaining and Disclosing the Common Value in Auctions
Shani Alkoby, Esther David, and David Sarne

Ir282 Knowledge-Driven Autonomous Commodity Trading Advisor
Yee Pin Lim and Shih-Fen Cheng

Ir285 Hierarchical Negotiation Model for Complex Problems With Large-number of Interdependent Issues
Xiaoqin Zhang and Mark Klein

Short Papers:
Ir228 Distributed Matching with Mixed Maximum-Minimum Utilities
Amos Azaria, David Sarne, and Yonatan Aumann

Ir235 No More Damaging Ads on Your Own Webpage- Strategy Proof Mechanisms for Ad
Rina Azoulay and Esther David

Session (IAT-S4): Autonomous Information and Knowledge Agents
Session Time: 3:20pm-5:20pm, Session Chair: Prof. Bao Vo

Regular Papers:
Ir230 Evaluating the Applicability of Peer-Designed Agents in Mechanisms Evaluation
Avshalom Elmalech and David Sarne

Ir260 Humans-Robots Sliding Collaboration Control in Complex Environments with Adjustable Autonomy
Nicolas Coté, Arnaud Canu, Maroua Bouzid, and Abdel Illah Mouaddib

Ir290 Multimode Natural Language Processing for Extracting Open Knowledge
Jiongkun Xie, Xiaoping Chen, Jianmin Ji, and Zhiqiang Sui

Thursday, December 6, 2012

Session (IAT-S5): Coordination
Session Time: 11:20am-1:00pm, Session Chair: Prof. Yang Xu

Regular Papers:
Ir238 Evaluating the Valuable Rules from Different Experience Using Multiparty Argument Games
Li Yao, Junyi Xu, Jinyang Li, and Xuetian Qi

Ir210 A Distributed Reputation Detection Model for Information Diffusion: From Path to Individual
Yifeng Zhou and Yichuan Jiang

Ir216 Agent-based Multi-organizational Interaction Design: A Case Study of the Dutch Railway System
Jie Jiang, Bob Huisman, and Virginia Dignum

Ir224 Exploring the Importance of Information Relevance, Ontology and Utilities for Scalable Multi-agent Coordination
Yang Xu, Linglong Zhu, Xuemei Hu, and Mengjun Yang

Short Papers:
Ir223 Adjusting Organization to Improve Coordination for Large Heterogeneous Multi-agent Teams
Yang Xu, Xiang Li, and Han Liang

Session (IAT-S6): Agent and Multi-Agent Systems Modeling I
Session Time: 3:20pm-5:20pm, Session Chair: Prof. Yifeng Zeng

Regular Papers:
Ir209 Decision As Choice of Potential Intentions
Xiaocong Fan

Ir245 Behavioral Abstraction Robustness in Agent Modeling
Robert Junges and Franziska Klügl

Ir248 Game theory for Initial Public Offering (IPO): A multi-agent approach
Badiâa Hedjazi, Mohamed Ahmed-Nacer, Samir Aknine, and Karima Benatchba

Ir253 Learning Communication in Interactive Dynamic Influence Diagrams
Yifeng Zeng and Hua Miao

Ir266 Close Encounters of the Agent Kind: Designing Agents for Effective Training
Frank Dignum, Virginia Dignum, and Catholijn M. Jonker
Session (IAT-S7): Learning and Coordination

Session Time: 2:00pm-4:00pm, Session Chair: Prof. Stefano Bromuri

Regular Papers:
Ir244  A Hybrid Cooperative Behavior Learning Method for a Rule-based Shout-ahead Architecture
Sanjeev Paskaradevan and Jürgen Densinger

Ir247  A Tensor Factorization Approach to Generalization in Multi-Agent Reinforcement Learning
Stefano Bromuri

Ir249  Abstraction in Model Based Partially Observable Reinforcement Learning using Extended Sequence Trees
Erkin Çilden and Faruk Polat

Short Papers:
Ir241  Production Scheduling in an Agile Agent-based Production Grid
Leo van Moergestel, John-Jules Meyer, Erik Puik, and Daniël Telgen

Ir250  Efficient Complex Tasks Allocation within Agents Environment of Known capabilities
Esther David, Efrat Manisterski, Sarit Kraus, and Nicholas R. Jennings

Ir258  Empirical Evaluation of Multi-Agent Routing Approaches
Adriaanter Mors, Cees Witteveen, Charlotte Ipema, Frits de Nijs, and Theodor Tsiourakis

Ir265  Social Networked Multi-Agent Negotiation in Ontology Alignment
Nuno Luz, Nuno Silva, and Paulo Novais

Session (IAT-S8): Agent and Multi-Agent Systems Modeling II

Session Time: 2:00pm-4:00pm, Session Chair: Prof. Eugene Santos

Regular Papers:
Ir267  A Multi-Objective Incremental Path Planning Algorithm for Mobile Agents
Tugcem Oral and Faruk Polat

Ir288  A Multi Scale Cognitive Architecture to Account for the Adaptive and Reflective Nature of Behaviour
Othalia Larue, Pierre Poirier, and Roger Nikambou

Jan Treur and Arlette van Wissen

Short Papers:
Ir275  Improving Crowdsourcing Efficiency Based on Division Strategy
Huan Jiang and Shigeo Matsubara

Ir294  On Finding and Learning Effective Strategies for Complex Non-Zero-Sum Repeated Games
Predrag Tosic, Philip Dasler, and Carlos Ordonez

Session (IAT-S9): System Engineering and Repeated Games

Session Time: 11:20am-1:00pm, Session Chair: Prof. Chris Harris

Regular Papers:
Ir226  Oragentburg: A Platform Supporting Organization-based Programming
Yin Chan, Xinjun Mao, and Cuiyuan Hu

Ir243  Validation of a Model for Coping and Mood for Virtual Agents
Fiemke Both, Mark Hoogendoorn, and Michel Klein

Short Papers:
Ir234  An Advanced Model for Repeated Multi-Agent Constant-Sum Games
Christopher G. Harris

Ir294  On Finding and Learning Effective Strategies for Complex Non-Zero-Sum Repeated Games
Predrag Tosic, Philip Dasler, and Carlos Ordonez

Session (IAT-S10): Autonomy-Oriented Computing

Session Time: 11:20am-1:00pm, Session Chair: Prof. Ah Hwee Tan

Regular Papers:
Ir201  Reducing Correlated Failures Impact in Peer-to-peer Storage Systems Using Mobile Agents Flocks
Benoit Romito and Francois Bourdon

Ir213  Reorganization of Agent Networks with Reinforcement Learning based on Communication Delay
Kazuki Urakawa and Toshiharu Sugawara

Ir219  Knowledge-based Exploration for Reinforcement Learning in Self-Organizing Neural Networks
Teck-Hou Teng and Ah Hwee Tan

Ir232  A Runtime Goal Conflict Resolution Model for Agent Systems
Xiaogang Wang

Short Papers:
Ir221  Churn Tolerance Algorithm for State Machine Replication
Yihua Ding, James Wang, and Pradip Srimani

Ir273  ARA*: Improved path planning algorithm based on ARA*
Bo Li, Jianwei Gong, and Yan Jiang

Friday, December 7, 2012

Session (IAT-S11): Autonomy-Oriented Computing

Session Time: 11:20am-1:00pm, Session Chair: Prof. Ah Hwee Tan

Regular Papers:
Ir201  Reducing Correlated Failures Impact in Peer-to-peer Storage Systems Using Mobile Agents Flocks
Benoit Romito and Francois Bourdon

Ir213  Reorganization of Agent Networks with Reinforcement Learning based on Communication Delay
Kazuki Urakawa and Toshiharu Sugawara

Ir219  Knowledge-based Exploration for Reinforcement Learning in Self-Organizing Neural Networks
Teck-Hou Teng and Ah Hwee Tan

Ir232  A Runtime Goal Conflict Resolution Model for Agent Systems
Xiaogang Wang

Short Papers:
Ir221  Churn Tolerance Algorithm for State Machine Replication
Yihua Ding, James Wang, and Pradip Srimani

Ir273  ARA*: Improved path planning algorithm based on ARA*
Bo Li, Jianwei Gong, and Yan Jiang
Conference Program

WI 2012 Program

Wednesday, December 5, 2012

Session (WI-S1): Web Mining and Farming 1
Session Time: 10:50am-12:50pm, Session Chair: Prof. Muhammad Abulaish

Regular Papers:
Wr355 Unsupervised Feature Selection with Feature Clustering
Yiu-ming Cheung and Hong Jia

Wr338 Event Duration Detection on Microblogging
Yi-Shiang Tzeng, Jyun-Yu Jiang and Pu-Jen Cheng

Wr339 A Comparative Study of Cross-Lingual Sentiment Classification
Xiaojun Wan

Wr342 The Retrieval of Important News Stories by Influence Propagation among Communities and Categories
Yu-Fan Lin, Hung-Yu Kao

Short Papers:
Wr211 An MCL-Based Text Mining Approach for Namesake Disambiguation on the Web
Tarique Anwar, Muhammad Abulaish

Wr316 Efficiently Mining Active Stocks via Financial News and Business Description in Chinese A-Shares Market
Mingmin Chi, Jun Liu, Huijun He, Jiangfeng Bao, Yangyong Zhu

Session (WI-S2): Semantics and Ontology Engineering 1
Session Time: 10:50am-12:50am, Session Chair: Dr. William K.W. Cheung

Regular Papers:
Wr215 TaxoLearn: a Semantic Approach to Domain Taxonomy Learning
Emmanuelle-Anna Dietz, Damir Vandic, Flavius Frasincar

Wr218 Accuracy vs. Speed: Scalable Entity Coreference on the Semantic Web with On-the-Fly Pruning
Dezhao Song, Jeff Heflin

Wr224 RCQ-ACS: RDF Chain Query Optimization Using an Ant Colony System
Alexander Hogenboom, Ewout Nieuwenhuijse, Frederik Hogenboom, Flavius Frasincar

Wr235 Entity Disambiguation with Freebase
Zhicheng Zheng, Xiance Si, Fangtao Li, Edward Chang, Xiaoyan Zhu

Wr264 An Empirical Analysis of Semantic Techniques Applied to a Network Management Classification Problem
Aidan Boran, Ivan Bedini, Christopher Matheus, Peter Patel-Schneider, Stefan Bischof

Wr225 Approximating Linear Order Inference in OWL 2 DL by Horn Compilation
Jianfeng Du, Guillin Qi, Jeff Pan, Yi-Dong Shen

Session (WI-S3): Web Information Retrieval and Filtering 1
Session Time: 10:50am-12:50am, Session Chair: Dr. Chia-Hui Chang

Regular Papers:
Wr213 Term Weighting Schemes for Emerging Event Detection
Yanghui RAO, Qing Li

Wr254 A Generalized Links and Text Properties Based Forum Crawler
Amit Sachan, Wee Yong Lim, Vrizlynn Thing

Wr255 KGRAM Versatile Data Graphs Querying and Inference Engine
Olivier Corby, Alban Gaignard, Catherine Faron Zucker, Johan Montagnat

Wr226 Automatic Extraction of Blog Post from Diverse Blog Pages
Chia-Hui Chang, Jhih-Ming Chen

Wr216 Learning User Preference Patterns for Top-N Recommendations
Yongli Ren, Gang Li, Wanlei Zhou

Wr245 Ranking Text Documents Based on Conceptual Difficulty using Term Embedding and Sequential Discourse Cohesion
Shoaib Jameel, Wai Lam, Xiaojun Qian

Session (WI-S4): Web Mining and Farming 2
Session Time: 3:20pm-5:20pm, Session Chair: Dr. Li Chen

Regular Papers:
Wr333 Fusing Text and Friendship for Location Inference in Online Social Networks
Hansu Gu, Haojie Hang, Qin Lv, Dirk Grunwald

Wr343 Featured Tweet Search: Modeling Time and Social Influence for Microblog Retrieval
Lamjed Ben Jabeur, Lynda Tamine, Mohand Boughanem

Wr263 Sentiment Analysis of Turkish Political News
Mesut KAYA, Ismail H. TÖROSLU, Guven FIDAN

Wr237 Towards the Optimal Discriminant Subspace
Xichuan Zhou, Ping Gan, Chao Yan, Guojun Li

Wr283 Polarity Analysis for Food and Disease Relationships
Qingliang Miao, Shu Zhang, Yao Meng, Hao Yu

Short Papers:
Wr257 Inferring User Interest using Familiarity and Topic Similarity with Social Neighbors in Facebook
Dabi Ahn, Taehun Kim, Soon J. Hyun, Dongman Lee

Wr330 Using Patterns Co-occurrence Matrix for Cleaning Closed Sequential Patterns for Text Mining
Mubarak Albathan, Yuefeng Li, Abdulmohsen Algarni
Session (WI-S5): Social Networks and Ubiquitous Intelligence (Room 2)
Session Time: 3:20pm-5:20pm, Session Chair: Dr. Yin Qian

Regular Papers:
Wr206 Selective Behavior in Online Social Networks
Chunjing Xiao, Ling Su, Juan Bi, Yuxia Xue, Aleksandar Kuzmanovic

Wr250 Tweets Beget Propinquity: Detecting Highly Interactive Communities on Twitter Using Tweeting Links
Kwan Hui Lim, Amitava Datta

Wr311 Community Extracting Using Intersection Graph and Content Analysis in Complex Network
Toshiya Kuramochi, Naoki Okada, Kyohei Tanikawa, Yoshinori Hijikata, Shogo Nishida

Wr344 Predicting Stock Market Using Raw Web-Traffic Data and User-Level Analysis
Pierpaolo Donadio

Short Papers:
Wr209 Hierarchical Clustering Based on Hyper-Edge Similarity for Community Detection
Cheng Qing, Liu Zhong, Huang Jincai, Zhu Cheng

Wr315 Analysis of Discussion Page in Wikipedia Based on User’s Discussion Capability
Sungmin Joo, Hideaki Takeda

Wr341 Biological Mutualistic Models Applied to Study Open Source Software Development
Pablo Loyola, In-Young Ko

Session Time: 11:20am-1:00pm, Session Chair: Prof. Pawan Lingras

Regular Papers:
Wr222 Cognitive Resources Aware Adaptive Service Binding and Scheduling
Angel Jimenez-Molina, Jang Ho Choi, Jorge Gaete-Villegas, In-Young Ko

Wr348 Unsupervised Emotion Detection from Text Using Semantic and Syntactic Relations
Ameeta Agrawal, Aijun An

Wr332 Visual Clustering and Detecting Community Structure in a Web Usage Network
Leyla Zhuhadar, Rong Yang

Short Papers:
Wr269 A Double-Ranking Strategy for Long-Tail Product Recommendation
Mi Zhang, Neil Hurley, Xiangyang Xue

Wr326 Social Recommendations for Location-Based Services
Andreas Emrich, Alexandra Chapko, Dirk Werth, Peter Loos

Wr203 Content-Based Semantic Tag Ranking for Recommendation
Miao Fan, Qiang Zhou, Fang Zheng

Session (WI-S6): Web Information Retrieval and Filtering 2
Session Time: 3:20pm-5:20pm, Session Chair: Prof. Yiuming Cheung

Regular Papers:
Wr290 A Website Content Analysis Approach Based on Keyword Similarity Analysis
Shruti Kohli, Sandeep Kaur, Gurrajian Singh

Wr318 Serendipitous Personalized Ranking for Top-N Recommendation
Qiuxia Lu, Tianqi Chen, Weinan Zhang, Diyi Yang, Yong Yu

Wr319 Effectively Detecting Content Spam on the Web Using Topical Diversity Measures
Cailing Dong, Bin Zhou

Wr334 Document Re-ranking using Partial Social Tagging
Peng Li, Jian-Yun Nie, Bin Wang, Jing He

Short paper:
Wr269 A Double-Ranking Strategy for Long-Tail Product Recommendation
Mi Zhang, Neil Hurley, Xiangyang Xue

Thursday, December 6, 2012

Session (WI-S7): Web Information Retrieval and Filtering 4
Session Time: 11:20am-1:00pm, Session Chair: Dr. Xiaohui Tao

Regular Papers:
Wr220 Extracting Web News Using Tag Path Patterns
Gongqing Wu, Xindong Wu

Wr302 Service Selection based on Similarity Measurement for Conditional Qualitative Preference
Hongbing Wang, Jie Zhang, Hualan Wang, Yangyu Tang, Guibing Guo

Wr301 Location Comparison Through Geographical Topics
Jeong-Woo Son, Yun-Seok Noh, Hyun-Je Song, Seong-Bae Park

Wr317 Mining Publication Records in Personal Publication Web Pages Based on Conditional Random Fields
Jen-Ming Chung, Ya-Huei Lin, Hahn-Ming Lee, Jan-Ming Ho

Short Papers:
Wr304 Verb Oriented Sentiment Classification
Mostafa Karamibekr, Ali A. Ghorbani

Wr233 Mining Criminal Networks from Chat Log
Farkhund Iqbal, Benjamin C. M. Fung, Mourad Debbabi

Session (WI-S8): Intelligent Human-Web Interaction (Room 2)
Session Time: 11:20am-1:00pm, Session Chair: Prof. Pawan Lingras

Regular Papers:
Wr222 Cognitive Resources Aware Adaptive Service Binding and Scheduling
Angel Jimenez-Molina, Jang Ho Choi, Jorge Gaete-Villegas, In-Young Ko

Wr348 Unsupervised Emotion Detection from Text Using Semantic and Syntactic Relations
Ameeta Agrawal, Aijun An

Wr332 Visual Clustering and Detecting Community Structure in a Web Usage Network
Leyla Zhuhadar, Rong Yang

Short Papers:
Wr269 A Double-Ranking Strategy for Long-Tail Product Recommendation
Mi Zhang, Neil Hurley, Xiangyang Xue

Wr326 Social Recommendations for Location-Based Services
Andreas Emrich, Alexandra Chapko, Dirk Werth, Peter Loos

Wr203 Content-Based Semantic Tag Ranking for Recommendation
Miao Fan, Qiang Zhou, Fang Zheng

Wr299 Disambiguating Implicit Temporal Queries by Clustering Top Relevant Dates in Web Snippets
Ricardo Campos, Alípio Jorge, Gael Dias, Célia Nunes
Conference Program

Session (WI-S9): Web Mining and Farming 4 (Room 1)

Session Time: 2:00pm-4:00pm, Session Chair: Prof. Haolan Zhang

Regular Papers:
Wr240 A Novel Graph-Based Keyphrase Extraction in Twitter
Abdelghani Bellaachia, Mohammed Al-Dhelaan

Wr260 Malicious URL Detection Based on Kolmogorov Complexity Estimation
Hsing-Kuo Pao, Yan-Lin Chou, Yuh-Jye Lee

Wr268 Batch-Mode Active Learning With Semi-Supervised Cluster Tree for Text Classification
Zhaocai Sun, Yunning Ye, Xiaofeng Zhang

Wr271 Local Tangent Distances for Classification Problems
Jian Yang, Kexin Zhu, Ning Zhong

Wr278 Context Aware Named Entity Disambiguation
Ivo Laske, Peter Vojtas

Short Papers:
Wr243 Understanding the Regularity and Variability of Human Mobility from Geo-trajectory
Yunji Liang, Xingshe Zhou, Bin Guo, Zhiwen Yu

Session (WI-S10): Web Information Retrieval and Filtering 3

Session Time: 2:00pm-4:00pm, Session Chair: Prof. Yuping Wang

Regular Papers:
Wr291 E-Rank: A Structural-Based Similarity Measure in Social Networks
Mingxi Zhang, He Zhenying, Hao Hu, Wei Wang

Wr670 Link Prediction Using BenefitRanks in Weighted Networks
Zhijie Lin, Yun Xiong, Yangyong Zhu

Short Papers:
Wr210 Story-Based News Presentation and Novelty Control
Arnout Verheij, Allard Kleijn, Florian Frasincar, Frederik Hogenboom

Wr236 Support for Video Hosting Service Users Using Folksonomy and Social Annotation
Katsunori Ishino, Ryoei Orihara, Hiroyuki Nakagawa, Yasuyuki Tahara, Akihiko Ohsuga

Wr323 A Modularity Maximization Algorithm for Community Detection in Social Networks with Low Time Complexity
Mohsen Afsarchi, Mohsen Arab

Wr208 Semantic Formalization of Cross-site User Browsing Behavior
Julia Hoxha, Sudhir Agarwal

Wr337 Flexible Algorithm Selection Framework for Large Scale Metalearning
Eugene Santos Jr., Alex Kilpatrick, Hien Nguyen, Qi Gu, Andy Grooms

Short Papers:
Wr347 Extraction and Compilation of Events and Sub-Events from Twitter
Arpit Khurdiya, Dr. Lipika Dey, Diwakar Mahajan, Ishan Verma

Wr306 The Mechanism of Information Resonance in Social Media
Takashi Ishikawa

Session (WI-S11): Web Mining and Farming 5

Session Time: 11:20am-1:00pm, Session Chair: Prof. Hien Nguyen

Regular Papers:
Wr236 Support for Video Hosting Service Users Using Folksonomy and Social Annotation
Katsunori Ishino, Ryoei Orihara, Hiroyuki Nakagawa, Yasuyuki Tahara, Akihiko Ohsuga

Wr323 A Modularity Maximization Algorithm for Community Detection in Social Networks with Low Time Complexity
Mohsen Afsarchi, Mohsen Arab

Wr208 Semantic Formalization of Cross-site User Browsing Behavior
Julia Hoxha, Sudhir Agarwal

Wr337 Flexible Algorithm Selection Framework for Large Scale Metalearning
Eugene Santos Jr., Alex Kilpatrick, Hien Nguyen, Qi Gu, Andy Grooms

Short Papers:
Wr347 Extraction and Compilation of Events and Sub-Events from Twitter
Arpit Khurdiya, Dr. Lipika Dey, Diwakar Mahajan, Ishan Verma

Wr306 The Mechanism of Information Resonance in Social Media
Takashi Ishikawa

Session (WI-S12): Semantics and Ontology Engineering 2

Session Time: 11:20am-1:00pm, Session Chair: Prof. Longbing Cao

Regular Papers:
Wr284 Building up a Class Hierarchy with Properties from Japanese Wikipedia
Takeshi Morita, Yuka Sekimoto, Susumu Tamagawa, Takahira Yamaguchi

Wr329 Enhancing LOD Complex Query Building with Context
Ricardo Brandão, Paulo Maio, Nuno Silva

Short Papers:
Wr292 Semantic Labelling for Document Feature Patterns Using Ontological Subjects
Xiaohui Tao, Yuefeng Li, Bin Liu

Wr287 From DBpedia to Wikipedia: Filling the Gap by Discovering Wikipedia Conventions
Diego Torres, Pascal Molli, Hala Skaf-Molli, Alicia Diaz

Wr349 Ontology Usage Network Analysis
Jamsheid Ashtaf, Omar Hussain

Friday, December 7, 2012
Conference Program

Session (WI-S14): Web Mining and Farming 3
Session Time: 2:00pm-3:40pm, Session Chair: Dr. Naoki Fukuta

Regular Papers:
Wr279  COMMA: A Result-Oriented Composite Autocompletion Method for e-Marketplaces
Matteo Palmonari, Giuseppe Vizzari, Andrea Brogila, Nicola Lambert, Riccardo Porrini

Short Papers:
Wr277  Statistical and Structural Analysis of Web-based Collaborative Knowledge Bases Generated from
Wiki Encyclopedia
Yi Zeng, Hao Wang, Hongwei Hao, Bo Xu

Wr234  Latent Business Networks Mining: A Probabilistic Generative Model
Wenping Zhang, Raymond Y.K. Lau, Yunqing XIA, Chunping LI, Wenjie Maggie LI

Wr282  A Context-Aware Framework for Detecting Unfair Ratings in an Unknown Real Environment
Cheng Wan, Jie Zhang, Athirai Aravazhi Iriissappane

Wr322  An Ontology-Based Mining of Consumer Feedbacks Using Fuzzy Reasoning
Lipika Dey, Sameera Bharadwaja, Shefali Bhat

Wr324  An Intelligent System for Retrieving Economic Information from Corporate Websites
Josep Domenech, Bernardo de la Ossa, Ana Pont, Jose A. Gil, Milagros Martinez, Alicia Rubio

Wr281  Causal Graph Based Dynamic Optimization of Hierarchies for Factored MDPs
Hongbing Wang, Jiancai Zhou, Xuan Zhou

Wr280  Choreographing Web Services with Semantically Enhanced Scripting
Xi Bai, Ewan Klein, Dave Robertson

Session (WI-S13): Intelligent e-Technology
Session Time: 2:00pm-3:40pm, Session Chair: Prof. Josep Domenech

Regular Papers:
Wr279  COMMA: A Result-Oriented Composite Autocompletion Method for e-Marketplaces
Matteo Palmonari, Giuseppe Vizzari, Andrea Brogila, Nicola Lambert, Riccardo Porrini

Short Papers:
Wr277  Statistical and Structural Analysis of Web-based Collaborative Knowledge Bases Generated from
Wiki Encyclopedia
Yi Zeng, Hao Wang, Hongwei Hao, Bo Xu

Wr234  Latent Business Networks Mining: A Probabilistic Generative Model
Wenping Zhang, Raymond Y.K. Lau, Yunqing XIA, Chunping LI, Wenjie Maggie LI

Wr282  A Context-Aware Framework for Detecting Unfair Ratings in an Unknown Real Environment
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Wr281  Causal Graph Based Dynamic Optimization of Hierarchies for Factored MDPs
Hongbing Wang, Jiancai Zhou, Xuan Zhou

Wr280  Choreographing Web Services with Semantically Enhanced Scripting
Xi Bai, Ewan Klein, Dave Robertson

Session (AMT-S1): Special Session on Human-Computer Interaction & Knowledge Discovery From Big Data
Session Time: 10:50 – 12:50 (8 papers, 15mins/paper)
Special Session Chairs: Andreas Holzinger and Andreas Auinger

Revealing Cultural Influences in Human Computer Interaction by Analyzing Big Data in Interactions
Rudiger Heimgartner and Harald Kindermann

Predicting Student Exam’s Scores by Analyzing Social Network Data
Michael Fire, Gilad Katz, Yuval Elovici, Bracha Shapira and Lior Rokach

SPTrack: Visual Analysis of Information Flows Within SELinux Policies and Attack Logs
Patrice Clemente, Bangaly Kaba, Jonathan Rouzaud-Cornabas, Marc Alexandre and Guillaume Aujay

Using Mixed Node Publication Network Graphs for Analyzing Success in Interdisciplinary Teams
André Calero Valdez, Anne Kathrin Schaar, Martina Ziefle, Andreas Holzinger and Sabina Jeschke

AMT 2012 Program

Tuesday, December 4, 2012

Session (AMT-W5) : International Workshop on Meta-synthesis and Complex Systems
Session Time: 08:30 – 10:30 (4 papers), 10:45 – 12:45 (4 papers)
Workshop Chair: Xinjin Tang and Xiaoji Zhou

Opinion Dynamics on Triad Scale Free Network
Qianqian Li, Yijun Liu, Ruya Tian and Ning Ma

Distribution of Node Characteristics in Complex Networks of Tree Class
Ying Tan, Hong Luo and Shouli Peng

Dynamic Mergers Drive Industrial Competition Evolution: A Network Analysis Perspective
Rui Hou, Jianmei Yang and Canzhong Yao

A Study of Collective Action Threshold Model Based on Utility and Psychological Theories
Zhenpeng Li and Xijin Tang

Recognition of Online Opinion Leaders Based on Social Network Analysis
Ning Ma, Yijun Liu, Ruya Tian and Qianqian Li

Critical Infrastructure Management for Telecommunication Networks
Haibo Wang, Bahram Alidaee and Wei Wang

Developing Self-Organizing Systems by Policy-based Self-Organizing Multi-Agent Systems
Yi Guo, Xinjun Mao, Cuiyun Hu, Junwen Yin and Xinzhong Zhu

On Prioritized 2-tuple Ordered Weighted Averaging Operators
Cuiping Wei, Xijin Tang and Xiaojie Wang

Wednesday, December 5, 2012

Session (AMT-S1): Special Session on Human-Computer Interaction & Knowledge Discovery From Big Data
Session Time: 10:50 – 12:50 (8 papers, 15mins/paper)
Special Session Chairs: Andreas Holzinger and Andreas Auinger

Revealing Cultural Influences in Human Computer Interaction by Analyzing Big Data in Interactions
Rudiger Heimgartner and Harald Kindermann

Predicting Student Exam’s Scores by Analyzing Social Network Data
Michael Fire, Gilad Katz, Yuval Elovici, Bracha Shapira and Lior Rokach

SPTrack: Visual Analysis of Information Flows Within SELinux Policies and Attack Logs
Patrice Clemente, Bangaly Kaba, Jonathan Rouzaud-Cornabas, Marc Alexandre and Guillaume Aujay

Using Mixed Node Publication Network Graphs for Analyzing Success in Interdisciplinary Teams
André Calero Valdez, Anne Kathrin Schaar, Martina Ziefle, Andreas Holzinger and Sabina Jeschke
On Text Preprocessing for Opinion Mining outside of Laboratory Environments
Gerald Petz, Michal Karpowicz, Harald Furschü, Andreas Auinger, Stephan M. Winkler, Susanne Schaller and Andreas Holzinger

Human Involvement in Designing an Information Quality Assessment Technique Demonstrated in a Healthcare Setting
Shuyan Xie, Markus Helfert and Lukasz Ostrowski

On Applying Approximate Entropy to ECG Signals for Knowledge Discovery on the Example of Big Sensor Data
Andreas Holzinger, Christof Stocker, Manuel Bruschi, Andreas Auinger, Hugo Silva, Hugo Gamboa and Ana Fred

Towards a Framework Based on Single Trial Connectivity for Enhancing Knowledge Discovery in BCI
Martin Billinger, Clemens Brunner, Reinhold Scherer, Andreas Holzinger and Gernot R. Muller-Putz

Conference Program

Session (AMT-S2): Special Session on Social Media towards Knowledge Discovery and Management
Session Time: 3:20pm – 5:20pm (6 papers, 20mins/paper)
Special Session Chair: Neil Y.Yen
A Novel Collaboration Partner Model Based on the Personal Relationships of SNS
Chengjiu Yin, Jane Yin-Kim Yau and Yoshiyuki Tabata
An Innovative Way for Mining Clinical and Administrative Healthcare Data
Siu Hung Keith Lo and Maiga Chang
An Adaptive Recommendation System for Museum Navigation
Jason C. Hung, Chun-Hong Huang and Victoria Hsu
Adaptive SVM-based Classification Systems based on the Improved Endocrine-based PSO Algorithm
Kuan-Cheng Lin, Sheng-Hwa Hsu and Jason C. Hung
A Probability Model for Recognition of Dynamic Gesture-based on a Finger-worn Device
Yinghui Zhou, Zixue Cheng, Lei Jing and Junbo Wang
Design of a Situation-Aware System for Abnormal Activity Detection of Elderly People
Junbo Wang, Zixue Cheng, Mengqiao Zhang, Yinghui Zhou and Lei Jing

Thursday, December 6, 2012

Session (AMT-S3)
Session Time: 11:20am – 1:00pm (5 papers, 20mins/paper)
Session Chair: Prof. Bin Guo
An Ontology Based Privacy Protection Model for Third-Party Platform
Haojun Yu, Yuqing Sun and Jinyan Hu
Evaluating Ontology-based User Profiles
Silvia Calegari and Gabriella Pasi
Semantic Information with Type Theory of Acyclic Recursion
Roussanka Loukanova
Pyxis: An Active Replication Approach for Enhancing Social Media Services
Sen Li, BeiHong Jin, Yuwei Yang and Wenjing Fang
A Comparative Study of Community Structure based Node Scores for Network Immunization
Yuu Yamada and Tetsuya Yoshida

Session (AMT-S4)
Session Time: 2:00pm – 4:00pm (6 papers, 20mins/paper)
Session Chair: Prof. Rem Collier
Social Network Analysis of Virtual Worlds
Gregory Stafford, Hiep Luong, John Gauch, Susan Gauch and Joshua Eno
Active Media Framework for Network Processing Components
Ichiro Satoh
Semantic Network Monitoring and Control over Heterogeneous Network Models and Protocols
Christopher J. Matheus, Aidan Boran, Dominic Carr, Rem Collier, Barnard Kroon, Olga Murdoch, Gregory M. P. O’Hare and Michael O'Grady
Movie Genre Classification Using SVM with Audio and Video Features
Yin-Fu Huang and Shih-Hao Wang
Fast Content-based Retrieval from Online Photo Sharing Sites
Gerald Schaefer and David Edmundson
Interactive Exploration of Image Collection on Mobile Devices
Gerald Schaefer, Matthew Tallyn, Daniel Felton, David Edmundson and William Plant

Session (AMT-S5)
Session Time: 2:00pm – 4:00pm (6 papers, 20mins/paper)
Session Chair: Prof. Neil Y.Yen
A Clustering Ensemble Based on a Modified Normalized Mutual Information Metric
Hamid Parvin, Behzad Maleki and Sajad Parvin
Influence of Erroneous Pairwise Constraints in Semi-Supervised Clustering
Tetsuya Yoshida
User Correlation Discovery and Dynamical Profiling Based on Social Streams
Xiaokang Zhou and Qun Jin
Extraction of Human Social Behavior from Mobile Phone Sensing
Minshu Li, Haipeng Wang, Bin Guo and Zhiwen Yu
Continuity of Defuzzification on L2 Space for Optimization of Fuzzy Control
Takashi Mitsushi, Takanori Terashima, Nami Shimada, Toshimichi Homma, Kiyoshi Sawada and Yasunari Shidama
DC stream based JPEG compressed domain image retrieval
Gerald Schaefer and David Edmundson
Friday, December 7, 2012

Session (AMT-S6)
Session Time: 11:20am – 1:00pm (5 papers, 20mins/paper)
Session Chair: Prof. Gerald Schaefer

Distributed Protocols for Multi-Agent Coalition Formation: A Negotiation Perspective
Predrag T. Tošić and Carlos Ordonez

Multi-agent liquidity risk management in an interbank net settlement System
Badia Hedjazi, Mohamed Ahmed-Nacer, Samir Aknine and Karima Benatchba

An Enhanced Mechanism for Agent Capability Reuse
Haolan Zhang, Jiming Liu, Chaoyi Pang and Xingsen Li

A Bayesian Network Approach to Investigating User-Robot Personality Matching
Jungsik Hwang, Kun Chang Lee and Jaeyeol Jeong

Semantic Precision and Recall for Evaluating Incoherent Ontology Mappings
Qiu Ji, Zhiqiang Gao, Zhisheng Huang and Man Zhu

Session (AMT-S7)
Session Time: 11:20am – 1:00pm (5 papers, 20mins/paper)
Session Chair: Prof. Joshua Eno

Modelling Multi-criteria Decision Making Ability of Agents in Agent-based Rice Pest Risk Assessment Model
Vinh Gia Nhi Nguyen, Hiep Xuan Huynh and Alexis Drogoul

Agent Based Assistance for Electric Vehicles An Evaluation
Marco Lutzenberger, Jan Keiser, Nils Masuch and Sahin Albayrak

Event Calculus-Based Adaptive Services Composition Policy for Aml Systems
Huibing Zhang, Jingwei Zhang, Ya Zhou and Junyan Qian

QoS- and resource-aware service composition and adaptation
Quoc Bao Vo and Minyi Li

A Self-organization Method for Reorganizing Resources in a Distributed Network
Xiaolong Guo and Jiajin Huang

Session (AMT-S8)
Session Time: 2:00pm – 3:40pm (4 papers, 20mins/paper)
Session Chair: Prof. Qun Jin

An Event-Driven Energy Efficient Framework for Wearable Health-Monitoring System
Na Li, YiBin Hou and ZhangQin Huang

Learning Style Model for e-Learning Systems
Mohamed Hamada

A Trajectory-Based Recommender System for Tourism
Ranieri Baraglia, Claudio Frattari, Cristina Ioana Muntean, Franco Maria Nardini and Fabrizio Silvestri

An Adaptive Method for the Tag-Rating-Based Recommender System
Xi Yuan and Jiajin Huang

Session (AMT-S9)
Session Time: 2:00pm – 3:40pm (4 papers, 20mins/paper)
Session Chair: Prof. Gabriella Pasi

Comparative Study of Joint Decision-Making on Two Visual Cognition Systems Using Combinatorial Fusion
Amy Bataliones, Cameron McMunn-Coffran, Kilby Sanchez, Brian Mott, and D. Frank Hsu

Research on Touch as a Means of Interaction in Digital Art
Mingwei Zhang and Guoyong Dai

Perceptual Image Hashing with Histogram of Color Vector Angles
Zhenjun Tang, Yumin Dai, Xianquan Zhang and Shichao Zhang

Data Hiding Method Based on Local Image Features
Xianquan Zhang, Zhenjun Tang, Tao Liang, Shichao Zhang, Yingjun Zhu and Yonghai Sun

Session (AMT-S10)
Session Time: 16:00 – 17:20 (4 papers, 20mins/paper)
Session Chair: Prof. Beihong Jin

Fast Flow Visualization on CUDA Based on Texture Optimization
Yang Tang, Zhan Zhou, XiaoYing Shi and Jing Fan

A Message Passing Graph Match Algorithm Based on a Generative Graphical Model
Gang Shen and Wei Li

Automatic Player Behavior Analyses from Baseball Broadcast Videos
Yin-Fu Huang and Zong-Xian Yang

Hot Topic Detection in News Blogs from the Perspective of W2T
Erzhong Zhou, Ning Zhong, Yuefeng Li, and Jiajin Huang

Session (AMT-S11)
Session Time: 4:00pm – 5:20pm (4 papers, 20 mins/paper)
Session Chair: Prof. Franco Maria Nardini

The Derived Kernel based Recognition Method of Vehicle Type
Zhenchao Zhang, Yuanyan Tang, Changsong Liu and Xiaoqing Ding

An Approach to Define Flexible Structural Constraints in XQuery
Emanuele Fanzeri and Gabriella Pasi

A On-line News Documents Clustering Method
Hui Zhang, Guohui Li and Xinwen Xu

Extracting Property Semantics from Japanese Wikipedia
Susumu Tamagawa, Takeshi Morita and Takahira Yamaguchi
BI 2012 Program
Wednesday, December 5, 2012

Session (BI-S1): IT for the Management, Use, and Simulation of Brain Data
Session Time: 10:50am-12:50am, Session Chair:

Modeling and Optimization of Information Retrieval for Perception-based Information
Alexander Ryjov

Sleep Physiological Dynamics Simulation with Fuzzy Set,
Yu-Wen Chen and Hsing Mei

Parallels between Machine and Brain Decoding, Lorenzo Dell'Ariciprete,
Brian Murphy, and Fabio Massimo Zanzotto

Detecting Emotion from EEG Signals using the Emotive Epoc Device,
Rafael Ramirez and Zacharias Vamvakoussis

An Efficient Visibility Graph Similarity Algorithm and Its Application for Sleep Stages Classification,
Guohun Zhu, Yan Li, and Peng (Paul) Wen

Information-Theoretic based Feature Selection for Multi-Voxel Pattern Analysis of fMRI Data,
Chun-An Chou, Kittipat Bot Kampa, Sonya Mehta, Rosalia Tungiaraza, W. Art Chaowalitwongse, and Thomas Grabowski

Session (BI-S2): Special Session on Granular Computing and Brain Informatics
Session Time: 3:20pm-5:20pm, Session Chair:

A Preliminary Study of Using Granular Computing for Remote Sensing Image Segmentation Involving Roughness,
Ge Cui and Xin Wang

Semi-Supervised Clustering via Constrained Symmetric Non-Negative Matrix Factorization,
Liping Jing, Jian Yu, Tieyong Zeng, and Yan Zhu

Granular Association Rule Mining Through Parametric Rough Sets,
Fan Min and William Zhu

Comparison of Granular Computing Models in a Set-theoretic Framework,
Ying Wang and Duoqian Miao

Multiple Representations of Web Content for Effective Knowledge Utilization,
Yiyu Yao and Sheila Petty

Rule Measures Tradeoff Using Game-theoretic Rough Sets,
Yan Zhang and JingTao Yao

A Comparison Study of Cost-Sensitive Classifier Evaluations,
Bing Zhou and Qingzhong Liu

Thursday, December 6, 2012

Session (BI-S3): Applications I
Session Time: 11:20am-1:00pm, Session Chair:

A Cognitive Architecture based on Cognitive/Neurological Dual-System Theories,
Othalia Larue, Pierre Poirier, and Roger Nkambou

The Impact of PSO based Dimension Reduction on EEG classification,
Adham Atyabi, Sean P. Fitzgibbon, David M. W. Powers, and Martin Luerssen

Modified Shared Circuits Model for Manufacturing Processes Control: From Psychology and Neuroscience to a Computational Solution,
Rodolfo Haber, Alfonso Sanchez Boza, Agustin Gajate, and Raul Del Toro

A Brain-Inspired Computational Model of Emotion and Attention Interaction Silviano Diaz Barriga, Luis-Felipe Rodriguez, Felix Ramos, and Marco Ramos

Chinese Medicine Formula Network Analysis for Core Herbal Discovery,
Yuan Gao, Zheng Liu, Chong-Jun Wang, Xin-Sheng Fan, and Jun-Yuan Xie

Session (BI-S4): Thinking and Perception-centric Investigations of HIPS and Applications
Session Time: 2:00pm-4:00pm, Session Chair:

Language Acquisition is an Optimized Process Balanced between Holistic and Compositive,
Qingyuan Tian

A Naive Hypergraph Model of Brain Networks,
Zhijiang Wang, Jiming Liu, Ning Zhong, Yulin Qin, Haiyan Zhou, Jian Yang, and Kuncheng Li

The Effect of Individual Psychological Characteristics on Creativity Revelation: Emphasis with Psychological Empowerment and Intrinsic Motivation,
Do Young Choi, Kun Chang Lee, and Seong Wook Chae

An EEG-Based Brain Informatics Application for Enhancing Music Experience,
Yike Guo, Chao Wu, and Diego Peteiro-Barral

Decoding of EEG Activity from Object Views: Active Detection vs. Passive Visual Tasks,
Sudhir Sasane and Lars Schwabe

Multiplication of EEG Samples through Replicating, Biasing, and Overlapping,
Adham Atyabi, Sean P. Fitzgibbon, and David M. W. Powers
Conference Program

Friday, December 7, 2012

Session (BI-S5): Thinking and Perception-centric Investigations of HIPS II
Session Time: 11:20am-1:00pm, Session Chair:

Associative Information Processing in Parahippocampal Place Area (PPA): An fMRI Study,
Mi Li, Dongning Han, Shengfu Lu, Zheng Liu, and Ning Zhong

An Agent Model for Temporal Dynamics Analysis of a Person with Chronic Fatigue Syndrome,
Azizi Ab Aziz, Faudziah Ahmad, and Houzifa M. Hintaya

Object Recognition Test in Peripheral Vision: A Study on the Influence of Object Color, Pattern and Shape,
Chin Ian Lou, Daria Migotina, Joao P Rodrigues, Joao Semedo, Feng Wan, Peng Un Mak, Pui In Mak, Mang I Vai, Fernando Melicio, Jorges Pereira, and Agostinho Rosa

Session Time: 2:00pm-3:40pm, Session Chair:

The Role of Category Label in Adults’ Inductive Reasoning,
Xuyan Wang, Zhoujun Long, Sanxia Fan, Weijian Yu, Haiyan Zhou, and Yulin Qin

Estimation of Visual Feedback Contributions to Limb Stiffness in Visuomotor Control,
Yuki Ueyama and Eizo Miyashita

Rule Acquisition in the Proceeding of Heuristic Sudoku Solving, Haiyan Zhou, Yukun Xiong, Zhoujun Long, Sanxia Fan, Xuyan Wang, Yulin Qin, and Ning Zhong

BatGaze: A New Tool to Measure Depth Features at the Center of Gaze During Free Viewing,
Redwan Mohammed, Samah Mohammed, and Lars Schwabe

Session (BI-S6): Thinking and Perception-centric Investigations of HIPS
Session Time: 2:00pm-3:40pm, Session Chair:

The Role of Category Label in Adults’ Inductive Reasoning,
Xuyan Wang, Zhoujun Long, Sanxia Fan, Weijian Yu, Haiyan Zhou, and Yulin Qin

Estimation of Visual Feedback Contributions to Limb Stiffness in Visuomotor Control,
Yuki Ueyama and Eizo Miyashita

Rule Acquisition in the Proceeding of Heuristic Sudoku Solving, Haiyan Zhou, Yukun Xiong, Zhoujun Long, Sanxia Fan, Xuyan Wang, Yulin Qin, and Ning Zhong

BatGaze: A New Tool to Measure Depth Features at the Center of Gaze During Free Viewing,
Redwan Mohammed, Samah Mohammed, and Lars Schwabe

Session (BI-S7): Special Session on Cognitive Architectures meets Brain Informatics
Session Time: 4:00pm-5:40pm, Session Chair:

Model-based neuroimaging,
Niels Taatgen

Parietal Regions involved in Cognitive and Metacognitive Processing Processes,
Yulin Qin, Haiyan Zhou, Zhijiang Wang, Jian Yang, Ning Zhong and John R. Anderson

Different Strategies in Series Completion Inductive Reasoning Tasks: A computational analysis using event-related fMRI,
Peipeng Liang

An fMRI/ DTI Study on Arithmetic Problem-Solving of Patients with Depression,
Yang Yang and Ning Zhong

Curating Brain Informatics Big Data on the Wisdom Web of Things,
Jianhui Chen and Ning Zhong

ISMIS 2012 Program

Wednesday, December 5, 2012

Session (ISMIS-S1): Data Mining
Session Time: 10:50am-12:50pm, Session Chair: Prof. Alexander Felfernig

IS245 Min-Max Itemset Trees for Dense and Categorical Datasets
Jennifer Lavergne, Ryan Benton, and Vijay Raghavan

IS217 An Anti-tampering Algorithm Based on an Artificial Intelligence Approach
Andrea Moio, Attilio Giordana, and Dino Mendola

IS240 Mining Top-K Non-Redundant Association Rules
Philippe Fournier-Viger and Vincent S. Tseng

IS222 The Problem of Finding the Sparsest Bayesian Network for an Input Data Set is NP-Hard
Pawel Betlinski and Dominik Slezak

IS211 RPKM: The Rough Possibilistic K-Modes
Asma Ammar, Zied Elouedi, and Pawan Lingras

IS219 Exploration and Exploitation Operators for Genetic Graph Clustering Algorithm
Jan Kohout and Roman Neruda

IS238 On the Relations Between Retention Replacement, Additive Perturbation, and Randomisations for Nominal Attributes in Privacy Preserving Data Mining
Piotr Andruszkiewicz

Session (ISMIS-S2): Decision Support & Intelligent Systems
Session Time: 3:20pm-5:20pm, Session Chair: Prof. Vijay Raghavan

IS246 Intelligent Alarm Filter Using Knowledge-based Alert Verification in Network Intrusion Detection
Yuxin Meng, Wenjuan Li, and Lam-for Kwok

IS221 Using Web Mining for Discovering Spatial Patterns and Hot Spots for Spatial Generalization
Piotr Gawrysiak and Jan Burdziej
Thursday, December 6, 2012

Session (ISMIS-S3): Data Mining & Language Processing
Session Time: 11:20am-1:00pm, Session Chair: Dr. Philippe Fournier-Viger

IS210  Foundations of Recommender System for STN Localization during DBS Surgery in Parkinson’s Patients
Konrad Ciecierski, Zbigniew Ras, and Andrzej Przybyszewski

IS226  Decision Support for Extensive Form Negotiation Games
Sujata Ghosh, Thiri Haymar Kyaw, and Rineke Verbrugge

IS236  A Comparison of Random Forests and Ferns on Recognition of Instruments in Jazz Recordings
Aljcia Wieczorkowska and Miron Kursa

IS250  An Event-driven Architecture for Spatio-temporal Surveillance of Business Activities
Gabriel Pestana, Joachim Metter, Sebastian Heuchler, and Pedro Reis

IS220  Domain Knowledge and Data Mining with Association Rules - a Logical Point of View
Rauch Jan

IS206  Discovering Semantic Relations using Prepositional Phrases
Janardhana Punuru and Jianhua Chen

IS228  Local probabilistic approximations for incomplete data
Patrick Clark, Jerzy Grzymala-Busse, and Martin Kuehnhausen

IS225  Multiple Model Text Normalization for the Polish Language
Łukasz Brocki, Krzysztof Marasek, and Danijel Koržinek

IS239  DEBORA: dependency-based Method for Extracting Entity-relationship Triples from Open-domain Texts in Polish
Alina Wróblewska and Marcin Sydow

Session (ISMIS-S4): Knowledge Discovery and Representation (6 papers)
Session Time: 11:20am-1:00pm, Session Chair: Prof. Benjamin C.M. Fung

IS256  Clustering-Based Media Analysis for Understanding Human Emotional Reactions in an Extreme Event
Chao Gao and Jiming Liu

IS234  AGNES: a Novel Algorithm for Visualising Diversified Graphical Entity Summarisations on Knowledge Graphs
Grzegorz Sobczak, Mariusz Pikula, and Marcin Sydow

IS235  Large Scale Skill Matching through Knowledge Compilation
Eufemia Tinelli, Simona Colucci, Silvia Giannini, Eugenio Di Sciascio, and Francesco M. Donini

IS242  Lexical Ontology Layer - a Bridge between Text and Concepts
Grzegorz Protaziuk, Anna Wróblewska, Robert Bembenik, Henryk Rybiński, and Teresa Podała-Marczykowska

IS241  ABML Knowledge Refinement Loop: A Case Study
Matej Guid, Martin Možina, Vida Groznik, Dejan Georgiev, Aleksander Sadikov, Zvezdan Pirtošek, and Ivan Bratko

IS251  Evaluating Role Based Authorization Program
Chun Ruan

Session (ISMIS-S5): Human Factors in Information Retrieval
Session Time: 2:00pm-4:00pm, Session chair: Anne Boyer and Sylvain Castagnos

IS252  Adapting to Natural Rating Acquisition with Combined Active Learning Strategies
Mehdi Elahi, Francesco Ricci, and Neil Rubens

HFIR202  Anonymous Preference Elicitation for Requirements Prioritization
Gerald Niaus, Alexander Felfernig, and Florian Reinfank,

HFIR205  Clustering Users to Explain Recommender Systems’ Performance Fluctuation
Charif Haydar, Azim Roussanaly, and Anne Boyer,

IS243  Advanced Searching in Spaces of Music Information
Marusz Rybnik, Władysław Homenda, and TomaszSitarek

IS231  From Music to Emotions and Tinnitus Treatment, Initial Study
Deepali Kohli, Zbigniew Ras, Pamela Thompson, Pawel Jastreboff, and Alicja Wieczorkowska

IS207  Mood Tracking of Musical Compositions
Jacek Grekow
Friday, December 7, 2012

Session (ISMIS-S6) (Special Session): Social Recommender Systems
Session Time: 11:20am-1:00pm, Session chair: Linyuan Lü and Zi-Ke Zhang
RS203 Network-based inference algorithm on Hadoop
Zhen Tang, Qingxian Wang, and Shimin Cai,
RS204 A Hybrid Decision Approach to Detect Profile Injection Attacks in Collaborative Recommender Systems
Sheng Huang, Mingsheng Shang, and Shimin Cai,
RS206 Recommendation of Leaders in Online Social Systems
Hao Liu, Fei Yu, An Zeng, and Linyuan Lu
RS209 Measuring Quality, Reputation and Trust in Online Communities
Hao Liao, Giulio Gimini, and Matúš Medo
RS207 Application of Recommendation System: An Empirical Study of the Mobile Reading Platform Chun-Xiao Jia, Chuang Liu, Run-Ran Liu, and Peng Wang,

Session (ISMIS-S7) (Special Session): Product Configuration
Session Time: 2:00pm-3:40pm, Session Chair: Deepak Dhungana
PC201 Some Experimental Results Relevant to the Optimization of Configuration and Planning Problems
Paul Pfitz, Michel Aldanondo, Elise Vareilles, Linda Zhang, and Thierry Coudert,
PC202 Resolving Anomalies in Configuration Knowledge Bases
Alexander Felfernig, Florian Reinfrank, and Gerald Niederbrucker,
PC203 Configuration Repair via Flow Networks
Ingo Feinerer, Gerhard Niederbrucker, Gernot Salzer, and Tanja Sisel,
PC204 Analyzing the Accuracy of Calculations When Scoping Product Configuration Projects
Martin Bonev and Lars Hvam,
PC206 A two-step Hierarchical Product Configurator Design Methodology
Yue Wang and Mitchell Tseng,

Session (ISMIS-S8) (Special Session): Technology Intelligence and Applications
Session Time: 4:00pm-5:40pm, Session Chair: Dr. Choi, Sung-Pil
TIA203 Intelligence in Interoperability with AIDA
Hugo Peixoto, Manuel Santos, Antonio Abelha, and José Machado,
TIA204 An Intelligent Patient Monitoring System
Rui Rodrigues, Pedro Gonçalves, Miguel Miranda, Carlos Portela, Manuel Santos, José Neves, Antonio Abelha, and José Machado
TIA206 Corpus Construction for Extracting Disease-Gene Relations
Hong-Woo Chun, Sa-Kwang Song, Sung-Pil Choi, and Hanmin Jung,
TIA207 On Supporting Weapon System Information Analysis with Ontology Model and Text Mining
Jung-Whan Choi, Seungwoo Lee, Dongmin Seo, Sa-Kwang Song, Hanmin Jung, Sang Hwan Lee, and Pyung Kim,

Session (ISMIS-S9) (Special Session): Warehousing and OLAPing Complex, Spatial and Spatio-temporal Data
Session Time: 4:00pm-5:40pm, Session Chair: Prof. Orlando Belo
WOC205 Providing Timely Results with an Elastic Parallel DW
João Pedro Costa, Pedro Martins, José Cecilio, and Pedro Furtado, Providing
WOC206 Discovering Dynamic Classification Hierarchies in OLAP Dimensions
Nafees Ur Rehman, Svetlana Mansmann, Andreas Weiler, and Marc H. Scholl,
WOC207 BIAccelerator – A Template-based Approach for Rapid ETL Development
Reinhard Stumptner, Bernhard Freudenthaler, and Markus Krenn
WOC208 BPMN Patterns for ETL Conceptual Modelling and Validation
Bruno Oliveira and Orlando Belo,
WOC209 Efficiently Compressing OLAP Data Cubes via R-Tree based Recursive Partitions
Alfredo Cuzzocrea and Carson K. Leung
Keynote Abstracts

Turing Keynote
Chaired by Prof. Jiming Liu
(9:30 a.m.-10:20 a.m., December 5, 2012)

Extreme Ture-Ing In The Spectrums Of AI

Abstract

“I became obsessed with the Turing machine… I had no access to a scientific library. I looked up in my English-Greek dictionary the verb “to ture”…. In the end, I managed to piece together the puzzle, how a man named Alan Turing crafted his machine in order to answer the paramount question of his time: what can be computed, and what cannot.”

Christos H. Papadimitriou
Communications of the ACM
Vol. 55 No. 9, (August 2012) Page 42

In this talk, we “ture” some abstractions (or “spectrums”) of the work of AI scientists in the first Turing Century, looking for points that have been little explored, but might have great impact and value in the second Turing Century.

The landscape to be “tured” contains these three spectral dimensions: Cognitive -> Perceptual; Knowledge -> Search; and What -> How. On our “ture” we will glimpse ranges of Applications, peaks of Creativity, and unexpectedly large watersheds of Learning and rivers of Expertise. At the end of this “ture”, we should have more insight into, and power over, how we and our robots compute “what can be computed”.

Biography

Edward Feigenbaum was born in Weehawken, New Jersey, in 1936. He holds a B.S. (1956) and Ph.D. (1960), both from Carnegie Mellon University. His dissertation was supervised by legendary computer pioneer Herb Simon and explored a pioneering computer simulation of human learning.

Feigenbaum is a pioneer in the field of artificial intelligence and is often known as “the father of expert systems.” He founded the Knowledge Systems Laboratory at Stanford University and is currently a professor emeritus of computer science there.

Feigenbaum joined the Stanford computer science faculty in 1965 as one of its founding members. That same year, he and Nobel laureate Joshua Lederberg started the DENDRAL project. Later joined by eminent chemist Carl Djerassi and others, this project produced the world’s first expert system (1965-1982). DENDRAL’s groundbreaking accomplishments inspired an evolution of expert systems, moving artificial intelligence out of the laboratory and into the structure of countless software applications. As important, it changed the framework of AI science: the power of an AI program came to be seen as largely in its knowledge base, not in its inference processes.

Over a career spanning the history of artificial intelligence, he has written and spoken extensively on artificial intelligence topics.

In 1994, Feigenbaum received the ACM Turing Award. From 1994 to 1997, he was Chief Scientist of the U.S. Air Force. He is a member of the National Academy of Engineering and the American Academy of Arts and Sciences. Recent awards include election to the Hall of Fellows of the Computer History Museum; and an honorary Doctor of Engineering degree from Rensselaer Polytechnic University.

WI Keynote
Chaired by Prof. Yiu-ming Cheung
(2:00 p.m.-3:00 p.m., December 5, 2012)

Anytime Anywhere Computational Social Systems

Abstract

Understanding and analyzing how human beings respond, adapt, and react is a major scientific endeavor. Human beings are inherently complex and how we behave and interact is not easily modeled or quantified. At the same time, real-world decisions are made based on supposed expectations of human behavior.

This talk focuses on computational social systems; specifically on how to represent socio-cultural factors and their infusion into computational models and simulations. We will focus on two particular research constructs:

(a) Culturally-Infused Social Networks, and
(b) Anytime, Anywhere Social Networks Analysis.

Culturally-Infused Social Networks provide key capabilities in modeling the “who?”, “what?”, “why?”, “when” and “where?” that are prevalent in computational social systems. Due to the dynamism of real-world socio-cultural scenarios, Anytime Anywhere methodologies provide novel capabilities in efficient modeling and analysis that utilizes a principled approach to incorporation of dynamic information. The combination of these two approaches can ultimately provide significant new insights in the field of computational social systems.

Biography

Dr. Eunice E. Santos works in the areas of large-scale distributed processing, computational modeling, complex adaptive systems, and human modeling with applications to the biological, physical, and social sciences. She is the Founding Director of the Institute of Defense & Security and Professor at the University of Texas, El Paso. She joined the University of Texas at El Paso in 2009 after serving as a Senior Research Fellow at the US Department of Defense’s Center for Technology and National Security Policy. She is also the Director of the National Center for Border Security and Immigration (a DHS Center of Excellence). She was also a professor at Virginia Tech and Lehigh University. She earned her PhD in Computer Science from the University of California, Berkeley, and has B.S. and M.S. degrees in both Mathematics and Computer Science. Dr. Santos has received numerous awards, including a National Science Foundation Career Award, the IEEE-CS Technical Achievement Award, and the Robinson Faculty Award.
Digital Clone: Possible or Impossible?

Abstract
A digital clone is a digital copy of a physical individual, and can generally be called a Cyber-Individual (Cyber-I) as a counterpart of the real individual (Real-I) in the physical world. It can be regarded partially as a comprehensive digital description and an individual living entity including human characteristics but also those beyond the human. Two areas of emphasis of Cyber-I research are the systematic study of comprehensive individual modeling based on ubiquitous data aggregation, and the creation of individual-aware applications for the provision of services desired in the digital-cyber integrated hyper world. Generally, digital clone includes at least 2 levels: body/behavior and mind/brain. In particular, the “mind/brain” clone is the most difficult since we know very few of our own mind/brain so far, which need to be studied with Brain Informatics. Certainly, this research covers, intersects, overlaps with, and even joins other related studies in AI, user modeling, agent technology, virtual reality, robotics, and so forth. Given the fact of mixed success in intelligent informatics/computing history, is creating such a digital clone even possible? Is this the right time to start studying digital clones? How can we create it? How far can we go in digitally cloning a human being? This talk will present progress we have made in research and important lessons we have learned in studying Cyber-I. The creation of a digital clone will be very challenging, will need to aggregate multi-inter-disciplinary studies and take the joint efforts of many people in various areas/fields.

Biography
Jianhua Ma is a Professor at the Faculty of Computer and Information Sciences of Hosei University since 2000. Previously, he had 15 years’ teaching/research experience at NUDT, Xidian University and the University of Aizu (Japan). Dr. Ma has published over 200 papers, and edited over 15 books. He has served JUCl, JMM, JoATC, JPCU, and JUNESST as a Co-Editor-in-Chief. He is on the editorial boards of UICPOL, IJDEAT, IJMM, IJUH, IJUJA, IJDTA, IJCT, and IJAM; and has edited over 20 journal special issues as a Guest Editor. He organized the 6th Int'l Conf. on Distributed Multimedia Systems (DMS’99) as a PC Co-Chair, the 1st Int'l Conf. on Cyber Worlds (CW’02) as one of founders and PC Co-Chairs, the 18th IEEE Int'l Conf. on Advanced Information Networks and Applications (AINA’04) as a General Co-Chair, and the 1st IEEE Int'l Conf. on Social Computing (SocialCom’09) as an Advisory Chair. He is a founder of Int’l Conf. on Ubiquitous Intelligence and Computing (UIC), Int’l Conf. on Autonomic and Trusted Computing (ATC), IEEE Conf. on Cyber, Physical and Social Computing (CPSCom), and IEEE Conf. on Internet of Things (iThings). He is a Chair of IEEE CIS Task Force on Autonomic and Trusted Computing, and a co-founder of IEEE Task Force on Ubiquitous Intelligence and Computing.

Personalization with User-Tailored Privacy

Abstract
Personalization can be at odds with privacy since personalization necessitates the collection of considerable amounts of personal data. Numerous consumer surveys revealed that computer users are very concerned about their privacy online. At the same time though, studies show a considerable disparity between users’ stated privacy preferences and their actual behavior. The collection of personal data is also subject to legal regulations in many countries and states. This talk surveys work in the area of Privacy-Enhanced Personalization that aims at reconciling personalization with privacy through suitable human-computer interaction strategies and privacy-enhancing technologies. We present a dynamic user modeling framework for internationally operating websites that supports compliance with users’ personal privacy preferences and the privacy laws and regulations that apply to them. We also describe work on supporting users’ disclosure decisions on mobile devices that points again to the need for supporting privacy at an individual level.

Biography
Alfred Kobsa is a Professor in the Donald Bren School of Information and Computer Sciences of the University of California, Irvine, and currently a visiting researcher at Microsoft Research, Redmond, WA. Dr Kobsa’s research lies in the areas of user modeling and personalized systems, privacy, and support for personal health maintenance. He is the editor of User Modeling and User-Adapted Interaction: The Journal of Personalization Research, and edited several books and authored numerous publications in the areas of user-adaptive systems, privacy, human-computer interaction and knowledge representation.
AMT Keynote
Chaired by Prof. Runhe Huang
(9:00a.m.-10:00a.m., December 7, 2012)

Soft Granular Mining: Concepts, Features, Applications and Challenges

Abstract
Different components of machine intelligence are explained. The role of rough sets in uncertainty handling and granular computing is described. The relevance of its integration with fuzzy sets, namely, rough-fuzzy computing, as a stronger paradigm for uncertainty handling, is explained. Various applications of rough granules, significance of f-granulation and other important issues in their implementations are stated. Generalized rough sets using the concept of fuzziness in granules and sets, rough-fuzzy entropy measures, fuzzy equivalence partition matrix and f-information measure are defined. Various tasks such as case generation, class-dependent granulation, granular entropy for classification, rough-fuzzy clustering, feature selection, and measuring image ambiguity using granules are then addressed, explaining the nature and characteristics of granules used therein. Concept of fuzzy granular computing and granular fuzzy computing are explained.

While the method of case generation with variable reduced dimension is useful for mining data sets with large dimension and size, class-dependent granulation coupled with neighborhood rough sets for feature selection is efficient in modeling overlapping classes. Rough-fuzzy clustering is superior in terms of performance and speed. Entropy and mutual information defined on class independent fuzzy approximation space of attribute sets are useful for measuring relevance of a conditional attribute with respect to decision attribute and redundancy among conditional attributes. Effectiveness of these features is demonstrated for image analysis, and bioinformatics problems. Specifically, determination of bio-bases from protein sequence and selection of relevant genes from micro-array data. Significance of the measure “dispersion” of classification performance, which focuses on classified classes for higher level analysis, is explained in this regard.

The talk concludes with stating the future directions of research and challenges with other applications including natural computing.

Keynote Abstracts

Sankar Pal, Professor at Indian Statistical Institute, India

Biography
Sankar K. Pal (www.isical.ac.in/~sankar) is a Distinguished Scientist of the Indian Statistical Institute and a former Director. Currently, he is also a J.C. Bose Fellow of the Govt. of India. He founded the Machine Intelligence Unit and the Center for Soft Computing Research: A National Facility in the Institute in Calcutta. He received a Ph.D. in Radio Physics and Electronics from the University of Calcutta in 1979 (Work carried out at Indian Statistical Institute, Calcutta) and another Ph.D. in Electrical Engineering along with DIC from Imperial College, University of London in 1982. He joined his Institute in 1975 as a CSIR Senior Research Fellow where he became a Full Professor in 1987, Distinguished Scientist in 1998 and the Director for the term 2005-10.

He worked at the University of California, Berkeley and the University of Maryland, College Park in 1986-87; the NASA Johnson Space Center, Houston, Texas in 1990-92 & 1994; and in US Naval Research Laboratory, Washington DC in 2004. Since 1997 he has been serving as a Distinguished Visitor of IEEE Computer Society (USA) for the Asia-Pacific Region, and held several visiting positions in Italy, Poland, Hong Kong and Australian universities.

Prof. Pal is a Fellow of the IEEE, USA, the Academy of Sciences for the Developing World (TWAS), Italy, International Association for Pattern recognition, USA, International Association of Fuzzy Systems, USA, and all the four National Academies for Science/Engineering in India. He is a co-author of fifteen books and more than three hundred research publications in the areas of Pattern Recognition and Machine Learning, Image Processing, Data Mining and Web Intelligence, Soft Computing, Neural Nets, Genetic Algorithms, Fuzzy Sets, Rough Sets and Bioinformatics.

He has received the 1990 S.S. Bhatnagar Prize (which is the most coveted award for a scientist in India), and many prestigious awards in India and abroad including the 1999 G.D. Birla Award, 1998 Om Bhasin Award, 1993 Jawaharlal Nehru Fellowship, 2000 Kharwarizmi International Award from the Islamic Republic of Iran, 2000-2001 FICCI Award, 1993 Vikram Sarabhai Research Award, 1993 NASA Tech Brief Award (USA), 1994 IEEE Trans. Neural Networks Outstanding Paper Award (USA), 1995 NASA Patent Application Award (USA), 1997 IETE-R.L. Wadhwa Gold Medal, the 2001 INSA-S.H. Zaheer Medal, 2005-06 Indian Science Congress-P.C. Mahalanobis Birth Centenary Award (Gold Medal) for Lifetime Achievement, 2007 J.C. Bose Fellowship of the Government of India and 2008 Vigyan Ratna Award from Science & Culture Organization, West Bengal.

Keynote Abstracts

IAT Keynote
Chairied by Prof. Zhiguo Gong
(10:00a.m.-11:00a.m., December 7, 2012)

Making Good Decisions

Abstract

Several disciplines, including artificial intelligence, operations research and many others, study how to make
good decisions. In this talk, I will argue that the key to making progress in our research area is to combine
their ideas, which often requires serious technical advances to reconcile their different assumptions and
approaches in a way that results in synergy between them. I will then give a broad overview of our ongoing
research on search and planning (with a large number of students and colleagues, both at the University of
Southern California and elsewhere) to demonstrate how to combine ideas from different disciplines. For
example, I will talk about how to combine ideas from artificial intelligence planning and utility theory to
create the foundations for building decision-support systems that fit the risk preferences of human decision
makers in high-stake decision situations better than current systems. I will also talk about how to combine
ideas from artificial intelligence and economics to build teams of robots that use auctions to distribute tasks
autonomously among themselves.

Biography

Sven Koenig is a professor in computer science at the University of Southern California. Most of his research
centers around techniques for decision making (planning and learning) that enable single situated agents
(such as robots or decision-support systems) and teams of agents to act intelligently in their environments and
exhibit goal-directed behavior in real-time, even if they have only incomplete knowledge of their environment,
imperfect abilities to manipulate it, limited or noisy perception or insufficient reasoning speed. He co-founded
Additional information about Sven can be found on his web pages: idm-lab.org.

Turing-Year Panel

Top 10 Fundamental Questions and Challenges in
Intelligent Informatics/Computing (Top10Qi)

Background

Sixty years ago, Alan M. Turing, raised the essential question, “Can machines think?”
in his article “Computing Machinery and Intelligence”, which can be regarded as one
of seeds for AI and other intelligent computing. He believed machines could think and
also believed that “at the end of the century the use of words and general educated
opinion will have altered so much that one will be able to speak of machines thinking
without expecting to be contradicted”. Actually, since the end of the last century, the
essential question has become “Can things think?” as proposed by the TTT consortium
at MIT.

Computer and networks have brought profound changes not only as revolutionary
information technologies but also a digital space for creating a new world called “cyber
world”, whose impacts to our human beings have just begun. Following the informa-
tion explosion, we are experiencing in connection explosion and service explosion.
Sooner or later we will face the next one - Intelligence Explosion! The initial signs
of such intelligence explosion have been appearing, such as Web Intelligence (WI) as
one representative development of the Web, AI, agent technology, neural networks,
nature-inspired computing, cloud computing and so forth, and Ubiquitous Intelligence
(UI) because of active media, sensor technology, embedded devices, pervasive computing,
smart objects, Internet of things, etc.

For more information, you can visit
http://wi-consortium.org/blog/top10qi/index.html
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