Welcome Messages from ICDM/WI/IAT'06 Conference Co-Chairs

On behalf of the organizing committee for the WI'06, IAT'06, and ICDM'06 joint conferences, we would like to extend our warmest welcome to all of you to the conferences and to the most vibrant city in the world.

Hong Kong is an ideal place to host the three conferences of closely related themes: Data-Mining, Web Intelligence, and Intelligent Agent Technologies. Hong Kong has been one of the important international financial services and trading hubs, attributing to three key factors. First of all, the fundamental economic principle of Hong Kong is to harness growth opportunities. Hundreds of thousands of small and medium enterprises serve as individual autonomous agents that cooperate, compete, and collectively they flourish as one economic system. Second, the abundance of data as well as many government and financial institutions' efforts to data-mine and, in turn, generate useful knowledge, is translated into actionable business opportunities and marketing initiatives. Third, the electronic connectivity has served Hong Kong as the infrastructure backbone, and the Web intelligence technologies provide innovative ways of solving problems and developing and deploying new applications on top of such an infrastructure. As the prominent Milton Friedman once put "Hong Kong is a genuine example of 'free-market' economy." We believe the models of such an efficient, market economy may some day shed new lights on the development of novel computing paradigms and technologies. We hope these joint conferences will provide a forum for researchers and students in the areas of data-mining, Web intelligence, and agent technologies to exchange their latest research ideas and results and to inspire future breakthroughs. We are certain that this forum will be enriched with the joint keynote speech by Professor Ian Foster.

It is not an easy job to put together a joint conference of such a magnitude, and we would like to thank all the members of the organizing committee for their hard work during the past year in ensuring a top-quality technical program integrated with rich social activities. In particular, we are fortunate to have the following dedicated volunteers who have made direct contributions to the success of the conferences:

Christopher W. Clifton and Ning Zhong (ICDM Program Chairs), Toyoaki Nishida (WI/IAT Program Chair), Zhongzhi Shi, Ubbo Visser, and Xindong Wu (WI Program Co-Chairs), Matthias Klusch, Katia Sycara, and Makoto Yokoo (IAT Program Co-Chairs), Shusaku Tsumoto (ICDM Workshops Chair), Eamonn Keogh (ICDM Tutorials Chair), Yong Shi (ICDM Panels Chair), Kenichi Yoshida (ICDM Demo Chair), Xindong Wu (ICDM Proceedings Chair), Cory J. Butz, Ngoc Thanh Nguyen, and Yasufumi Takama (Workshop Co-Chairs), Yuefeng Li, Pawan Lingras, and Hideaki Takeda (Tutorial Co-Chairs), Wray Buntine, Kazuhiro Kuwabara, and Jianchang Mao (Industry and Demo-Track Co-Chairs), Einoshin Suzuki, Hongjin Yang, and Zhaohui Tang (Sponsorship Co-Chairs), Alvin C.M. Kwan, Marcin Szczuka, Guoyin Wang, and Hui Xiong (Publicity), and Juzhen Dong (Cyber Chair Administrator).

We would like to express our gratitude to Local Chair, Yiu-Ming Cheung and his team: William K. Cheung (Publications), Chi-Kuen Wong (Finance), Jianliang Xu (Local Arrangement), Xiaowen Chu (Registration), and many other student and staff volunteers for their endless hours, efforts, and professional arrangements. We are grateful to the strong support and sponsorships from Hong Kong Baptist University, IEEE Computer Society Technical Committee on Intelligent Informatics (TCII), Web Intelligence Consortium (WIC), ACM-SIGART, and Microsoft adCenter Labs, and the student traveling grants sponsorship from IBM T. J. Watson Research Laboratory.

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 wish you all productive conferences ahead and a most enjoyable stay in Hong Kong.

Jiming Liu and Benjamin W. Wah

Welcome Message from WI/IAT'06 Program Chair

Welcome to ICDM/WI/IAT'06 in Hong Kong. On behalf of the program committees for the WI'06 and IAT'06, I would like to extend my warmest welcome to all of you who participated in these substantial conferences on Data Mining, Web Intelligence and Intelligent Agent Technologies.

Web Intelligence (WI) has been recognized as a new direction for scientific research and development to explore the fundamental roles as well as practical impacts of Artificial Intelligence (AI) and advanced Information Technology (IT) on the next generation of Web-empowered products, systems, services, and activities. It is one of the most important as well as promising IT research fields in the era of Web and agent intelligence.

Intelligent Agent Technology (IAT) is concerned with theories, modeling, implementation and application of intelligent agents working on distributed environment. IAT is a key technology of realizing intelligent autonomous systems for distributed problem solving on the Web.

Following the great successes of WI/IAT'01 held in Maebashi City, Japan, WI/IAT'03 held in Halifax, Canada, WI/IAT'04 held in Beijing, China and WI/IAT'05 in Compiegne University of Technology, France, the 2006 IEEE/WIC/ACM International Conference on Web Intelligence (WI'06) and Intelligent Agent Technology (IAT'06) provide the world' leading international forums to bring together researchers and practitioners from diverse fields, to present the state-of-the-art of WI/IAT technologies, to examine performance characteristics of various approaches in WI/IAT technologies, and to cross-fertilize ideas on the development of intelligent information systems among different domains. This year, WI/IAT conferences are jointly held with ICDM, which will synergetically add an enormous intellectual excitement.

The quality of presentation is very high as a result of rigorous review by peer reviewers. For WI'06, 655 papers were submitted and approximately 18 percent of 374 submissions were accepted as regular papers and 37 percent as short papers. For IAT'06 approximately 25 percent of 281 submissions were accepted as regular papers and 21 percent as short papers.

My thank goes to the following distinguished guest speakers for the delivery of insightful keynote/invited talks:

Professor Ian Foster, Computation Institute Argonne National Laboratory & University of Chicago, USA
Professor Frank van Harmelen, Vrije Universiteit Amsterdam, The Netherlands
Professor Andrzej Skowron, Warsaw University, Poland
Professor Elisabeth André, University of Augsburg, Germany.

I also thank

Professor Ning Zhong, Maebashi Institute of Technology, Japan

for WIC Feature Talk, which is a new feature added at this conference. I am pretty sure that these talks will invoke profound intellectual discoveries.

I hope you enjoy the excellent academic and cultural atmosphere of the ICDM/WI/IAT'06 conferences.

Best Wishes,

Toyoaki Nishida
WI/IAT'06 Program Chair

Welcome Messages from ICDM'06 Program Co-Chairs

We welcome you to the 2006 IEEE International Conference on Data Mining, the world's premier research conference in data mining. The program includes 152 outstanding presentations representing 20 countries from the unprecedented 776 submissions. These papers cover a wide range of topics, including fundamental advances in data mining techniques, new areas for the application of data mining, and applications of data mining technology that bring new and general insights to the field.

The program also includes a keynote speech Service-Oriented Science: Scaling eScience Impact by Prof. Ian Foster of Argonne National Laboratory and the University of Chicago, as well as invited talks by Dr. Raghu Ramakrishnan of Yahoo, Inc. and Dr. Weixiong Zhang of Washington University. Also featured are a panel "Top 10 Algorithms in Data Mining", a sponsor seminar "Data Mining Challenges in Online Advertisement" by Zhaohui Tang of Microsoft AdCenter Labs, four tutorials, and demonstrations featuring several of the systems described in the research papers. You are also encouraged to attend the workshops and WI-IAT sessions, which are also included in this program.

We would like to thank the General Conference Co-Chairs (Jiming Liu, Benjamin Wah), Local Arrangements Chair (Yiu-Ming Cheung), Workshops Chair (Shusaku Tsumoto), Tutorials Chair (Eamonn Keogh), Panels Chair (Yong Shi), Demo Chairs (Kenichi Yoshida, Ubbo Visser), Publicity Chairs (Marcin Szczuka, Guoyin Wang, Hui Xiong), Sponsorship Chairs (Einoshin Suzuki, Zhaohui Tang, Hongjin Yang), Proceedings Chair (Xindong Wu), Cyber Chair Administrator (Juzhen Dong), and all 13 vice chairs and 188 members of ICDM'06 program committees as well as appointed reviewers for the countless hours they devoted to the conference organization and review activities. We also thank the ICDM steering committee for their advice and experience.

We also wish to thank the generous sponsors of the conference. We particularly thank our Golden sponsor, Microsoft, for their sponsorship of conference activities as well as student travel awards. We also thank IBM Research and the IEEE Computer Society Technical Committee on Intelligent Informatics for their ongoing support of ICDM student travel awards. Last but not the least, we would like to thank all the authors of submitted
papers and the attendees for their contribution and participation.

Once again, we welcome you to Hong Kong and ICDM'06.

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Chris Clifton and Ning Zhong
ICDM'06 Program Committee Chairs

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Welcome Messages from WI/IAT'06 Workshops Chairs

The Web is continually growing and spawning new services, communities, trends, and research topics. The aim of the WI-IAT workshops is to bring together researchers from all over the world to tackle new research challenges and initiatives in Web Intelligence (WI) and Intelligent Agent Technology (IAT). To this end, the length of a workshop paper is shorter than for a regular conference paper, yet still allowing new ideas to be proposed and evaluated. In addition, some papers originally submitted to the WI or IAT conferences are published in a workshop on a correlated topic.

We are very pleased with the quality and diversity of the WI-IAT workshops. There will be fourteen workshops on a wide variety of topics related to WI-IAT. In total, 379 papers have been submitted to the workshops and 176 of them have been accepted for presentation and including in the proceedings. Each paper was reviewed by at least three reviewers from the workshop to which it was submitted, and then by at least one of the workshop co-chairs. Thereby, we are sure that the workshop papers published here will be a well used repository for future research.

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Cory J. Butz, Ngoc Thanh Nguyen, Yasufumi Takama
WI/IAT'06 Workshops Co-Chairs

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Welcome Messages from ICDM'06 Workshops Chair

Welcome to Hong Kong ! I am very happy to invite all of you to ICDM 2006 workshops which covers new growing fields in data mining research. Since it was proposed on 1989, data mining has become a major field of data sciences, where all type of researchers on data analysis, including database, machine learning and statistics bring together from all over the world and exchange their ideas. IEEE ICDM started on 2001 and has given one of the most important forums for data mining researchers. What is different from other major conferences is that IEEE ICDM conferences analyze new trends, focus on new challenging problems in data mining and proliferates new trends in data mining. For this purpose, we think that good workshops and publications are principle factors for encouraging new challengers in this field. Especiall, this year ICDM 2006 organizers have decided to publish workshop proceedings from IEEE CS Press.

I am very pleased with the quality and diversity of the ICDM2006 workshops. There will be 11 workshops on a wide variety of topics related to data mining. In total, 504 papers have been submitted to the workshops and 167 of them have been accepted for presentation. Each paper was reviewed by at least two reviewers from the workshop to which it was submitted, and then by the workshop chair. Thereby, I am sure that the workshop papers published here will be a well used repository for future research.

Please enjoy your ICDM.

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Shusaku Tsumoto
ICDM'06 Workshops Chair

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ICDM / WI / IAT Joint Speaker

Service-Oriented Science: Scaling eScience Impact

Prof. Ian Foster

Director, Computation Institute Argonne National Laboratory & University of Chicago

Abstract

Computational approaches to problem solving have proven their worth in many fields of science, allowing the collection and analysis of unprecedented quantities of data, and the exploration via simulation of previously obscure phenomena. We now face the challenge of scaling the impact of these approaches from the specialist to entire communities. I speak here about work that seeks to address this goal by rethinking science's information technology foundations in terms of service-oriented architecture. In principle, service-oriented approaches can have a transformative effect on scientific communities, allowing tools formerly accessible only to the specialist to be made available to all, and permitting previously manual data-processing and analysis tasks to be automated. However, while the potential of such "service-oriented science" has been demonstrated, its routine application across many disciplines raises challenging technical problems. One important requirement is to enable the convenient discovery and composition of services. Another is to achieve a separation of concerns between discipline-specific content and domain-independent infrastructure. A third is to streamline the formation and evolution of the "virtual organizations" that create and access content. I describe the architectural principles, software, and deployments that I am and my colleagues have produced as we tackle these problems, and point to future technical challenges and scientific opportunities.

Bio Sketch

Ian Foster was born in Wellington, New Zealand. He has an bachelor of science (Hons I) degree in computer science from the University of Canterbury in Christchurch, New Zealand and a doctorate in computer science from Imperial College, London. Foster joined the Mathematics and Computer Science Division of Argonne National Laboratory in 1989. He is now the Director of the Computation Institute at Argonne and the University of Chicago, where he is also the Arthur Holly Compton Distinguished Service Professor of Computer Science. His research deals with distributed, parallel, and data-intensive computing technologies; the applications of those technologies to scientific problems; and the mechanisms and policies needed to create and operate scalable scientific "cyberinfrastructures." He has published six books and over 300 articles and technical reports on these and related topics. Dr. Foster is chair of the Globus Management Committee, which leads development of the Globus Toolkit, the open source software that is widely used for Grid computing in both e-business and e-science. Foster is also Chief Open Source Strategist at Univa Corporation, a company he founded with other Globus leaders to foster and promote commercial applications of Grid technology. Dr. Foster is a fellow of the American Association for the Advancement of Science and the British Computer Society. His awards include the British Computer Society's award for technical innovation, the Global Information Infrastructure (GII) Next Generation award, the British Computer Society's Lovelace Medal, and R&D Magazine's Innovator of the Year, and DSc Honoris Causa from the University of Canterbury.

ICDM Speakers

Exploratory Mining in Cube Space

Prof. Raghu Ramakrishnan

Yahoo! Research

Abstract

Data Mining has evolved as a new discipline at the intersection of several existing areas, including Database Systems, Machine Learning, Optimization, and Statistics. An important question is whether the field has matured to the point where it has originated substantial new problems and techniques that distinguish it from its parent disciplines. In this paper, we discuss a class of new problems and techniques that show great promise for exploratory mining, while synthesizing and generalizing ideas from the parent disciplines. While the class of problems we discuss is broad, there is a common underlying objective-to look beyond a single data mining step (e.g., data summarization or model construction) and address the combined process of data selection and transformation, parameter and algorithm selection, and model construction. The fundamental difficulty lies in the large space of alternative choices at each step, and good solutions must provide a natural framework for managing this complexity. We regard this as a grand challenge for Data Mining, and see the ideas in this paper as promising initial steps towards a rigorous exploratory framework that supports the entire process.

This is joint work with several people, in particular, Beechung Chen.

Bio Sketch

Dr. Ramakrishnan has a long history in the data mining field. His seminal clustering work on BIRCH appeared in the first volume of the Data Mining and Knowledge Discovery journal. While known to most for his long service as Professor of Computer Science at the University of Wisconsin, he has recently established a research group at Yahoo! Labs. His talk "Exploratory Mining in Cube Space" looks toward formalizing the grand challenge of a unifying framework to address the complex choices spanning the data mining process. Dr. Ramakrishnan is a fellow of the ACM, and has a Ph.D. from the University of Texas at Austin.

Data mining methods for modeling gene expression regulation and their applications

Prof. Weixiong Zhang

Department of Computer Science and Engineering, Washington University in St. Louis

Abstract

Understanding gene expression regulation at both transcriptional and post-transcriptional levels is critical for elucidation of the mechanism of stress tolerance in plants and important for understanding and diagnosis of human diseases. With the advent of high throughput gene expression profiling techniques, a huge amount of gene expression data on various organisms has been collected. Such a wealth of biological data has provided excellent opportunities to elucidating transcriptional regulation mechanisms using machine learning and data mining approaches.

My main purpose of this talk is to demonstrate how machine learning and data mining methods can be developed and applied to analyzing large quantities of genomic information and gene expression data for characterizing and modeling gene expression regulation. In particular, I will present and discuss some of the methods that we have developed for modeling gene expression regulation underlying abiotic stress (e.g., drought, low temperature and salinity) tolerance, for identifying gene responsive to particular environmental stress conditions, and for characterizing the functions of microRNA genes (which are non-coding RNA genes with ~21 nucleotides long and play important roles in post-transcriptional gene expression regulation) for stress regulation in model plant Arabidopsis thaliana. I will describe machine learning and data mining approaches for feature selection and gene expression modeling that we have developed, including 1) a genome-scale approach for finding cis-regulatory elements (short DNA sequences in promoter regions) which can be used as features for modeling transcription regulation, and a bi-dimensional regression tree method for characterizing gene expression regulation that integrates information of cis-regulatory elements and gene expression data. I will also discuss three applications of these computational approaches to developing 1) what we called targeted gene finding method for identifying stress responsive genes in A. thaliana using cis-regulatory elements, 2) a new method for characterizing core promoters of the currently known microRNA genes in C. elegans (worm), H. sapiens (human), O. sativa (rice) and A. thaliana and for predicting promoters of microRNA genes, and 3) a novel functional annotation method for discovering microRNA genes in A. thaliana that are inducible by abiotic stresses.

Bio Sketch

Professor Weixiong Zhang is an Associate Professor in Computer Science and Genetics at Washington University in St. Louis, Missouri, USA. He received his B.S. and M.S. in computer engineering from Tsinghua University, Beijing, China, and his Ph.D. in computer science from University of California at Los Angeles (UCLA). Professor Zhang's research interests include computational molecular biology and genomics, artificial intelligence (heuristic search, machine learning, constraint optimization, distributed multi-agent systems), data mining, and combinatorial optimization. He has published more than 80 papers in these areas and is the author of a research monograph, State-Space Search: Algorithms, Complexity, Extensions and Applications, published by Springer in 1999.

WIC Feature Talk

Web Intelligence Research from Brain Informatics Perspective

Prof. Ning Zhong

Maebashi Institute of Technology, Japan and

The International WIC Institute/BJUT, China

Abstract

New generations of Web Intelligence (WI) research and development need to understand multi-nature of intelligence in depth. As two related emerging fields of research, WI and Brain Informatics (BI) mutually support each other. When WI meets BI, it is possible to have a unified and holistic framework for the study of machine intelligence, human intelligence, and social intelligence. Their synergy will yield profound advances in the analysis and understanding of data, knowledge, intelligence and wisdom, as well as their relationships, organization and creation process. The recently designed instrumentation (fMRI etc.) and advanced IT are causing an impending revolution in both WI and BI, making it possible for us to understand and develop human-level Web intelligence. In this talk, we briefly investigate and demonstrate the potentials of WI research from BI perspective.

Bio Sketch

Ning Zhong received the Ph.D. degree in the Interdisciplinary Course on Advanced Science and Technology from the University of Tokyo. He is currently head of Knowledge Information Systems Laboratory, and a professor in Department of Systems and Information Engineering at Maebashi Institute of Technology, Japan. He is also director and an adjunct professor in the International WIC Institute (WICI), Beijing University of Technology. He has conducted research in the areas of knowledge discovery and data mining, rough sets and granular-soft computing, Web intelligence, intelligent agents, brain informatics, and knowledge information systems, with over 150 journal and conference publications and 10 books. He is the editor-in-chief of the Web Intelligence and Agent Systems journal (IOS Press), and Annual Review of Intelligent Informatics (World Scientific), associate editor of IEEE Transactions on Knowledge and Data Engineering, and the Knowledge and Information Systems journal (Springer), a member of the editorial board of Transactions on Rough Sets (Springer), and the editorial board of Advanced Information and Knowledge Processing (AI&KP) book series (Springer), Frontiers in AI and Applications book series (IOS Press), and editor (the area of intelligent systems) of the Encyclopedia of Computer Science and Engineering (Wiley). He is the co-chair of Web Intelligence Consortium (WIC), chair of the IEEE Computer Society Technical Committee on Intelligent Informatics (TCII), member of the steering committee of IEEE International Conferences on Data Mining (ICDM), IEEE GrC Task Force Committee and the Advisory Board, the steering committee of International Rough Set Society. He has served or is currently serving on the program committees of over 80 international conferences and workshops, including IEEE ICDM'02 (conference chair), IEEE ICDM'06 (program chair), IEEE/WIC WI-IAT'03 (conference chair), IEEE/WIC/ACM WI-IAT'04 (program chair), and IJCAI'03 (advisory committee member). He is a senior member of IEEE, and a member of IPSJ, JSAI, IEEE-CS, IEEE-SMC, ACM, AAAI, and IRSS.

WI / IAT Joint Speakers

Two Obvious Intuitions: Ontology-Mapping Needs Background Knowledge and Approximation

Prof. Frank van Harmelen

Department of AI, Faculty of Sciences, Vrije Universiteit Amsterdam, The Netherlands

Abstract

Ontology mapping (or: ontology alignment, or integration) is one of the most active areas the Semantic Web area. An increasing amount of ontologies are becoming available in recent years, and if the Semantic Web is to be taken seriously, the problem of ontology mapping must be solved. Numerous approaches are being proposed, a yearly competition is being organised, and a number of survey papers have appeared.

Nevertheless, with only a few exceptions, two obvious intuitions on ontology mapping have been overlooked: if humans perform "ontology mapping" in their daily life (a task we all solve every day), they do not do this in a vacuum. Instead, they exploit a rich body of background knowledge already shared by both agents involved in the mapping process. Similarly, humans do not expect that their daily-life ontology mapping is perfect. We can very well cope with approximate translations between concepts used by different agents (in fact, we are so good at it that we barely notice that we do this).

In this talk I will discuss recent work where we have quantitatively shown that indeed, ontology mapping can benefit from background knowledge, and that, somewhat surprisingly, more background knowledge leads to continuously improving results. We also discuss how the use of such background knowledge can be exploited to find approximate mappings when perfect mappings cannot be found.

Bio Sketch

Frank van Harmelen is professor in Knowledge Representation and Reasoning at the Vrije Universiteit Amsterdam, with a PhD from the University of Edinburgh on strategies for theorem provers and past work at the University of Amsterdam on formal foundations of knowledge modelling. He has been very active in recent years in developments around the Semantic Web. One of his five books is the first text book on Semantic Web technology. He is involved in numerous European Semantic Web projects, and he was one of the designers of the W3C standard ontology language OWL. He was the Program Chair of the ECAI 2002, the General Chair of the 2004 International Semantic Web Conference, and the chair the Semantic Web track of the 2005 World Wide Web conference.

Approximate Reasoning in MAS: Rough Set Approach

Andrzej Skowron

Institute of Mathematics, Warsaw University, Poland

Abstract

In modeling multiagent systems for real-life problems, techniques for approximate reasoning about vague concepts and dependencies (ARVCD) are necessary. In my talk, I will present an approach to approximate reasoning based on rough sets. This talk will include a discussion of a number of basic concepts such as approximation spaces, concept approximation, rough inclusion, construction of information granules in calculi of information granules, and perception logic. The approach to ARVCD will be illustrated by examples relative to interactions of agents, ontology approximation, adaptive hierarchical learning of compound concepts and skills, behavioral pattern identification, planning, conflict analysis and negotiations, and perception-based reasoning.

Bio Sketch

Andrzej Skowron holds a Ph.D. degree in Mathematical Foundations of Computer Science from the University of Warsaw in Poland, Doctor of Science (Habilitation) degree in Mathematical Foundations of Computer Science from the University of Warsaw in Poland. In 1991 he received the Scientific Title of Professor.

Andrzej Skowron is Full Professor in the Faculty of Mathematics, Computer Science and Mechanics at Warsaw University. He is the head of the Logic Section in the Institute of Mathematics. He is a vice-chairman of the Scientific Council at Institute of Computer Science of the Polish Academy of Sciences and a member of Computer Science Committee of the Polish Academy of Sciences. From 1988 to 1990, he was the Deputy Dean of the Faculty of Mathematics, Computer Science and Mechanics at Warsaw University. From 1994 to 1999, he was also the Head of the Senate in the Polish-Japanese Institute of Information Technology.

Andrzej Skowron is the author and co-author of almost 300 scientific publications, 15 edited books and several special issues of international journals like Pattern Recognition Letters, Neurocomputing, Computational Intelligence, Journal of Intelligent Information Systems (Kluwer), Journal of Intelligent Systems (Wiley). His areas of expertise include soft computing methods and applications, reasoning with incomplete information, approximate reasoning, rough sets, rough mereology, granular computing, synthesis and analysis of complex objects, intelligent agents, knowledge discovery systems, and advanced data mining techniques, decision support systems, adaptive systems. Currently, his research is focused on rough set theory and its applications. Since 1995 he is the Editor-in-Chief of Fundamenta Informaticae journal and a member of Editorial Boards of several others journals including Knowledge Discovery and Data Mining and Knowledge and Information Systems, An International Journal. He is the co-editor-in-chief of the journal LNCS Transactions on Rough Sets published by Springer.

Andrzej Skowron was the President of the International Rough Set Society from 1996 to 2000, and now he is a member of Steering Committee of IRSS. He served or is currently serving on the program committees of over 70 international conferences and workshops, as program committee member, program chair or co-chair. For example, he was the program chair of The 2005 IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT'05) and 2005 IEEE/WIC/ACM International Conference on Web Intelligence (France, 2005), the co-program chair of the IEEE International Conference on Granular Computing (GrC 2005) (Beijing, 2005), and the co-chair of the conference Trends in Logic III: In memoriam of Andrzej Mostowski, Helena Rasiowa, and Cecylia Rauszer (Poland, 2005). He has delivered numerous invited talks at international conferences including a plenary talk at the 16-th IFIP World Computer Congress (Beijing, 2000). In 2005 he delivered keynote

talks at 8th International Conference on information Sciences (JCIS 2005) (Salt Lake City, USA, 2005) and at the First International Conference of Pattern Recognition and Machine Intelligence (Kolkata, India, 2005). Throughout his career Andrzej Skowron has won many awards for his achievements, including awards from the Ministry of Science, the Rector of Warsaw University, the Ministry of Education, Mazur's Award of the Polish Mathematical Society, and Janiszewski's Award of the Polish Mathematical Society. In 2003 he received the title of honorary professor from Chongqing University of Post and Telecommunication (China). In 2005 he has received the ACM Recognition of Service Award for Contributions to ACM. In recent years he was involved in several national and international research and commercial projects related to, e.g., data mining (fraud detection, web mining), control of unmanned vehicles, decision support systems and approximate reasoning in distributed environments.

He was the supervisor over 20 PhD Thesis. www page: http://alfa.mimuw.edu.pl/

Engaging in a Conversation with Synthetic Agents along the Virtuality Continuum

Prof. Elisabeth André

Institute of Computer Science, University of Augsburg, Germany

Abstract

During the last decade research groups as well as a number of commercial software developers have started to deploy embodied conversational characters in the user interface especially in those application areas where a close emulation of multimodal human-human communication is needed. Most of these characters have one thing in common: In order to enter the user's physical world, they need to be physical themselves. My talk focuses on challenges that arise when embedding synthetic conversational agents in the user's physical world. I will start from work on synthetic agents that populate virtual worlds and anthropomorphic robots that inhabit physical worlds and discuss how the two areas need to be combined in order to populate physical worlds with synthetic characters. Finally, I will report on so-called traversable interfaces that allow agents to cross the border from the physical space to the virtual space and vice versa.

Bio Sketch

Prof. Dr. Elisabeth André is a full professor of Computer Science at Augsburg University, Germany and Chair of the Laboratory for Multimedia Concepts and their Applications. Prior to that, she worked as a principal researcher at DFKI GmbH where she has been leading various academic and industrial projects in the area of intelligent user interfaces. Her current research interests include embodied conversational agents, affective computing, intelligent multimedia interfaces, and the integration of vision and natural language. Elisabeth Andre is the Chair of the ACL Special Interest Group on Multimedia Language Processing (SIGMEDIA). Furthermore, she is on the editorial board of Artificial Intelligence Communications (AICOM), Cognitive Processing (International Quarterly of Cognitive Science), Universal Access to the Information Society (UAIS), Autonomous Agents and Multi-Agent Systems (JAAMAS). She is also the Area Editor for Intelligent User Interfaces of the Electronic Transactions of Artificial Intelligence (ETAI), and was a member of the editorial board of Computational Linguistics for the period 2002-2004.

From MR 400s (ICDM/WI/IAT Main Conferences) To MR 300s (Reception and Demo Session)

MR 400s
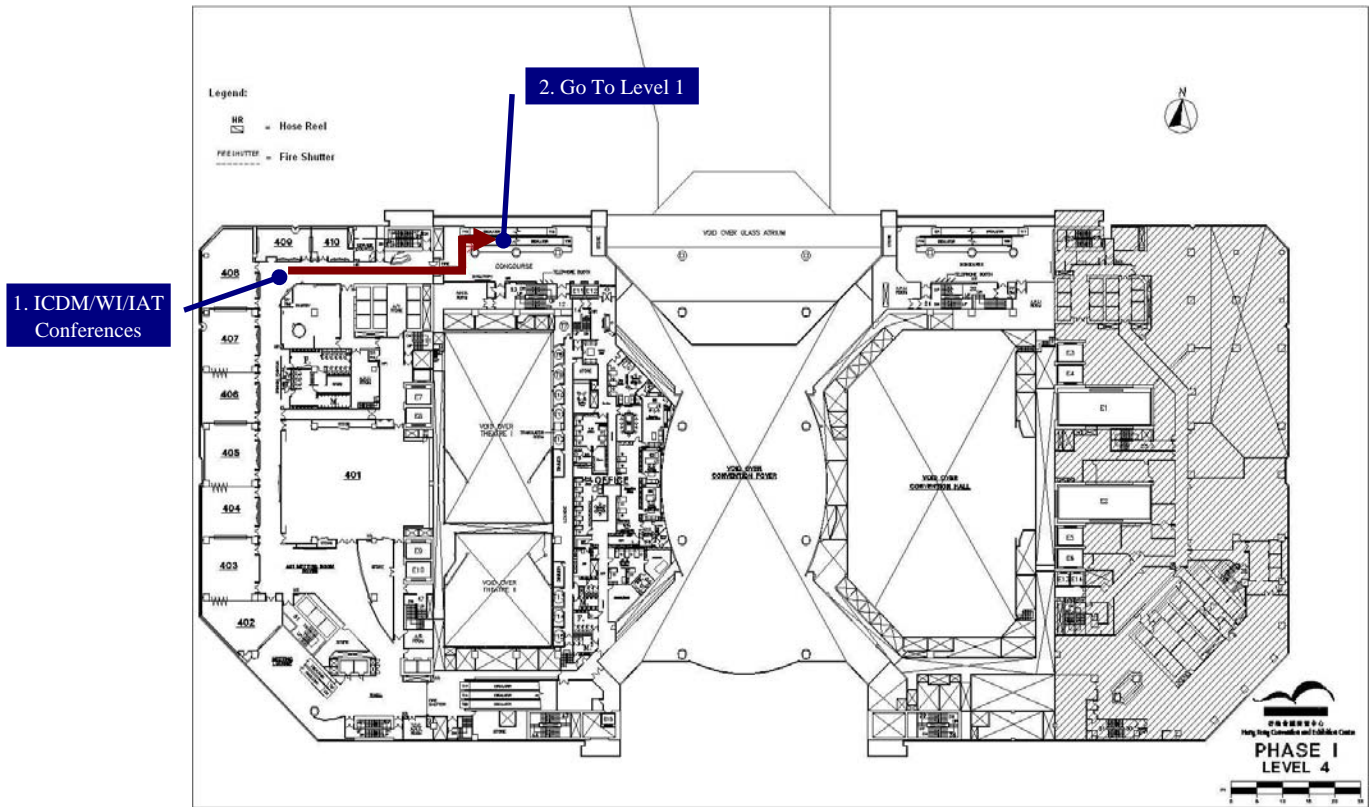
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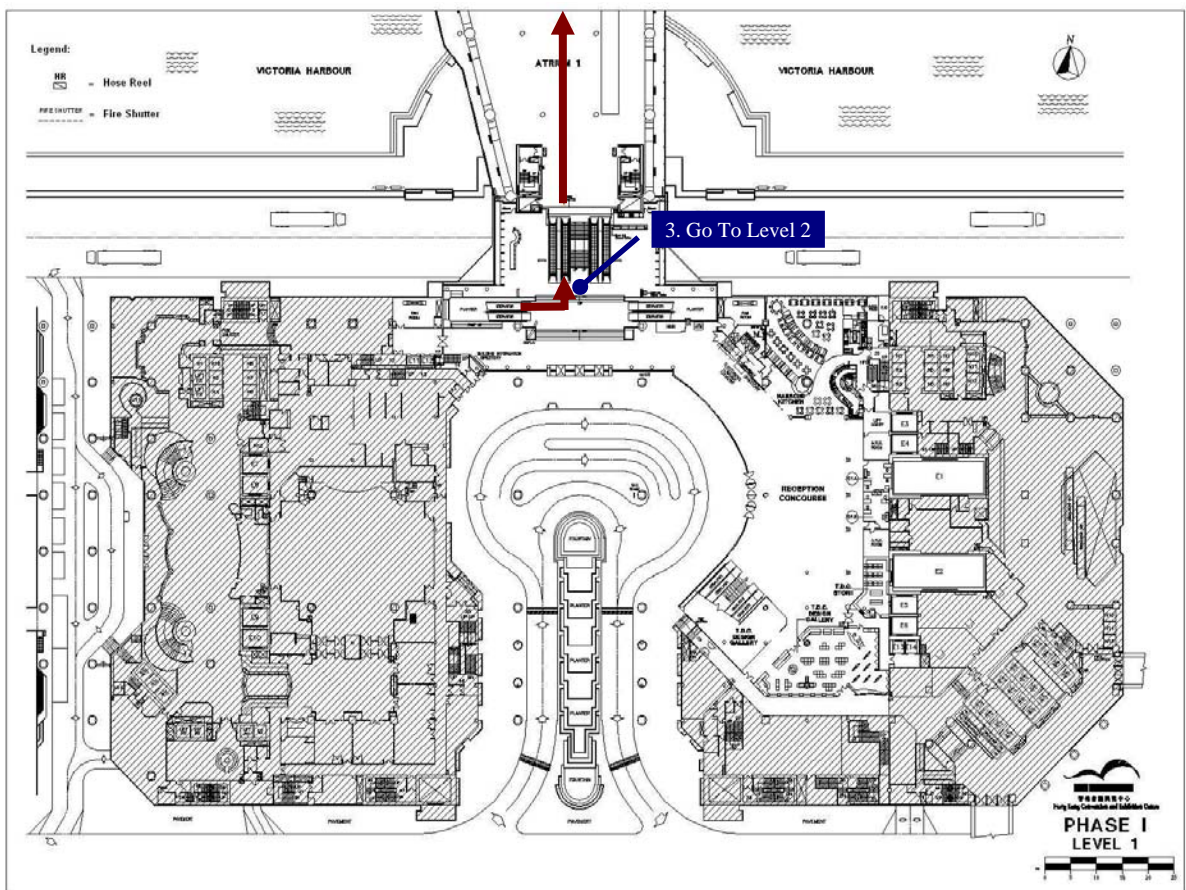
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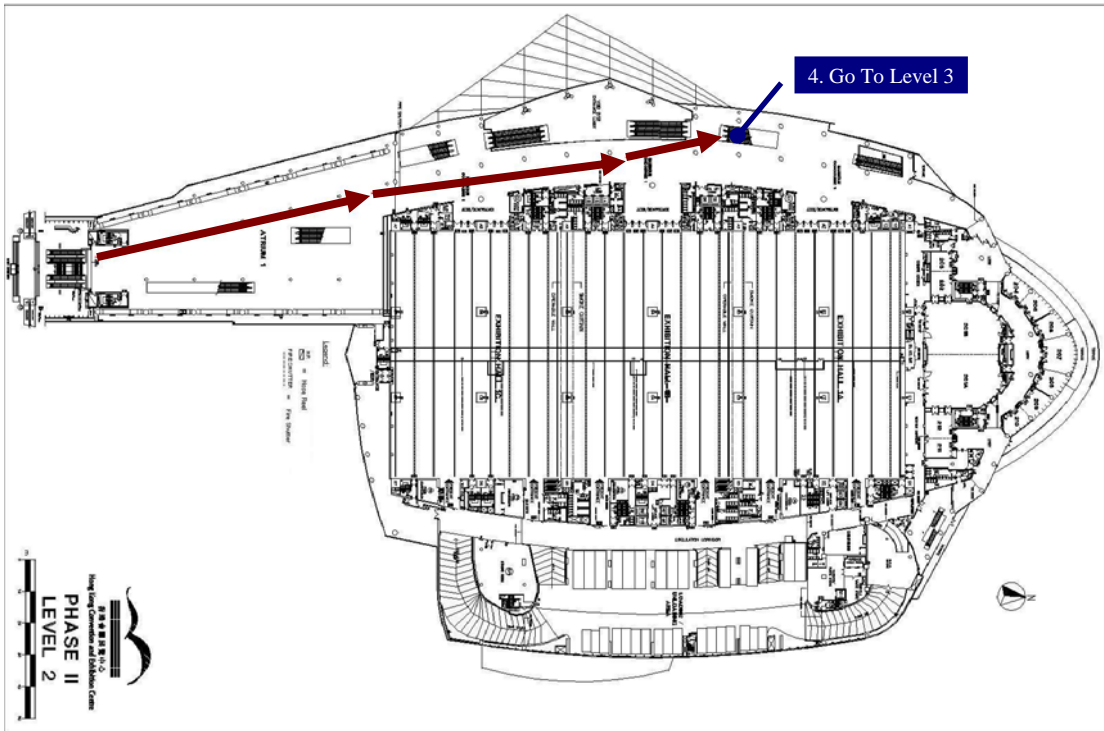
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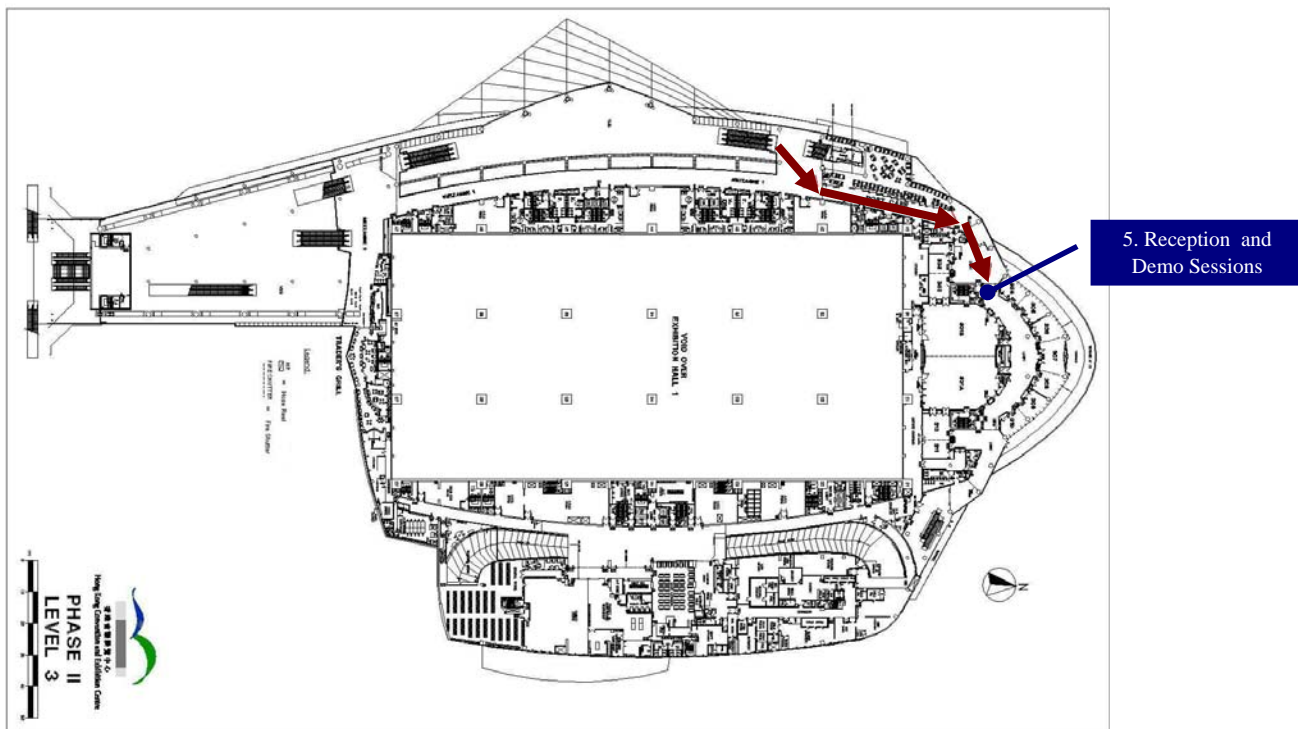
Program at a Glance (WI/IAT Workshops)

December 18, Monday									
Time	**Sessions**								
Venue	**Room 601**	**Room 603**	**Room 604**	**Room 605**	**Room 606**	**Room 607**	**Room 608**	**Room 609**	**Rom 610**
8:00-12:30	International Workshop on Agent and Data Mining Interaction	International Workshop on Service Composition	The 3rd International Workshop on Web-based Support Systems	Communication between Human and Artificial Agents	International Workshop on Web Privacy Intelligence	First International Workshop on Intelligent Agents in Wireless Sensor Networks	International Workshop on Adaptation and Personalization for e-Business Intelligence	International Workshop on Granular Computing and Brain Informatics for WI	International Workshop on Technologies and Applications of Knowledge Computing on the Web
12:30-14:00	**Lunch**								
14:00-19:00	International Workshop on Agent and Data Mining Interaction	International Workshop on Service Composition	The 3rd International Workshop on Web-based Support Systems	Communication between Human and Artificial Agents	International Workshop on Semantics in Virtual Organizations and Web Services	International Workshop on Intelligent Web Interaction	International Workshop on P2P Computing and Autonomous Agents	International Workshop on Multi-agent Systems in E-Business: Concepts, Technologies and Applications	International Workshop on Research of Agent-based Government Horizon Business Integration Management Systems

International Workshop on Agent and Data Mining Interaction

Time	Sessions
December 18, Monday (Room 601)	
9:00 - 9:15	Opening by Longbing Cao
9:15 - 9:55	Keynote 1 **Infrastructural Issues for Agent-Based Distributed Learning** (Chair: Longbing Cao)
Agent-driven data mining I	
9:55 - 10:15	**Investigating Agent Strategies within a Complex Adapative System of Purchasing Agents for Estimating Attribute Relevance** Chris Eichelberger and Mirsad Hadzikadic
10:15 - 10:35	**A Human-Friendly MAS for Mining Stock Data** Jiarui Ni and Chengqi Zhang
10:35 - 11:05	Break
Agent-driven data mining II	
11:05 - 11:25	**Towards a Multimodal Human Behavior Recognition Framework** Sidi O. Soueina, Jocelyne Kiss, Pascal Chaudeyrac, Patrice Bouvier, Ahmed H. Salem, and Adel S. Elmaghraby
11:25 - 11:45	**Agent-based Pattern Mining of Discredited Activities in Public Services** Chunsheng Li and Yatian Gao
11:45 - 12:05	**An Effective Hybrid Classifier Based on Rough Sets and Neural Networks** Rujiang Bai and Xiaoyue Wang
12:05 - 14:00	Break
14:00 - 14:40	Keynote 2 **Exploiting Data Mining Techniques for Improving the Efficiency of a Supply Chain Management agent** (Chair: Vladimir Gorodetsky)
Data mining driven agents III	
14:40 - 15:00	**Informed Recommender Agent: Utilizing Consumer Product Reviews through Text Mining** Silvana Aciar, Debbie Zhang, Simeon Simoff, and John Debenham
15:00 - 15:20	**Enhancing Tutoring Intelligence Using Knowledge Discovery Techniques** Engelbert Mephu Nguifo and Roger Nkambou
15:20 - 15:40	**An Intelligent Intrusion Detection and Response System Using Network Quarantine Channels: Adaptive Policies and Alert Filters** Emmanuel Hooper
15:40 – 16:00	Conclusions and closing by Longbing Cao
16:00 – 16:30	Break
16:30 – 17:30	**Panel discussion** Chair: Vladimir Gorodetsky

International Workshop on Service Composition

Time	Sessions
December 18, Monday (Room 603)	
Time	**Sessions**
Session I	
9:00 - 10:00	Workshop Opening and Keynote Speech
10:00 – 10:30	Break
Session II - Service Composition using Planning Techniques	
10:30 - 11:00	**Evaluation of Service Composition Planning with OWLS-XPlan** Matthias Klusch and Andreas Gerber
11:00 - 11:30	**Planning Based Integration of Web Services** Alfredo Milani, Stefano Marcugini, Fabio Rossi, and Simonetta Pallottelli
11:30 - 12:00	**HCLP Based Service Composition** Ying Guan, Aditya Ghose, and Zheng Lu
12:00 - 12:30	**Fast Dynamic Re-planning of Composite OWL-S Services** Matthias Klusch and Kai-Uwe Renner
12:30 - 14:00	Break
Session III - Composition of Stateful and Interactive Services	
14:00 - 14:30	**CCML: A Cooperative Service Composition Language** Xiuguo Zhang and Weishi Zhang
14:30 - 15:00	**Service Specification by Composition of Collaborations - An Example** Frank Alexander Kraemer and Peter Herrmann
15:00 - 15:30	**Dynamic Service Composition and Selection through an Agent Interaction Protocol** Yasmine Charif-Djebbar and Nicolas Sabouret
15:30 - 16:00	**An Agent-Based Architecture for Context-Aware Services Supporting Human Interaction** Axel Bürkle, Wilmuth Müller, Uwe Pfirrmann, Manfred Schenk, Nikolaos Dimakis, John Soldatos and Lazaros Polymenakos
16:00 - 16:30	Break
Session IV - Service Composition and Workflows	
16:30 - 17:00	**A Workflow-based Web Service Composition System** Erman Karakoc, Karani Kardas, and Pinar Senkul
17:00 - 17:30	**Dynamic Asynchronous Aggregate Search for Solving QoS Compositions of Web services** Xuan Thang Nguyen, Ryszard Kowalczyk, and Khoi Anh Phan
17:30 - 18:00	**Semantic Grid Services for Video Analysis** Gayathri Nadarajan, Yun-Heh Chen-Burger, and James Malone
18:00 - 18:15	Closing remarks and conclusion

The 3rd International Workshop on Web-based Support Systems

December 18, Monday (Room 604)	
Time	**Sessions**
Session I	
8:30 - 9:00	**Supporting Research with Weblogs: A Study on Web-Based Research Support Systems** JingTao Yao
9:00 - 9:30	**An Agent-Based Model of Research Collaboration in Collaborative Tagging for Scientific Publications** Piyanuch Klaisubun and Takashi Ishikawa
9:30 - 10:00	**AcadeMix Juice - A Hybrid Web 2.0/Semantic Web Platform for Exchange of Academic Knowledge** Yuri Tijerino, Hirohisa Masaki, and Nobuko Igaki
10:00 - 10:30	Coffee break
Session II	
10:30 - 11:00	**A Web-based System to Monitor the Quality of Meta-Data in Web Portals** Marcos Aurélio Domingues, Carlos Soares and Alípio Mário Jorge
11:00 - 11:30	**A Peer-to-Peer Approach to Large-Scale Content-Based Publish-Subscribe** Dongcai Shi, Jianwei Yin, Zhaohui Wu, and Jinxiang Dong
11:30 - 12:00	**ReMarkables: A Web-Based Research Collaboration Support System Using Social Bookmarking Tools** Takashi Ishikawa, Piyanuch Klaisubun, Masahiro Honma and Zhengyu Qian
12:00 - 12:30	**Web-Based Risk Avoidance Group Decision Support Systems in Software Project Bidding** Gang Xie, Jin-long Zhang and Kin Keung Lai
12:30 - 14:00	Lunch Break
Session III	
14:00 - 14:30	**Web-Based Virtual Research Environments (VRE): Support Collaboration in e-Science** Xiaobo Yang and Rob Allan
14:30 - 15:00	**Ontology-Based Content Management and Access Framework for Supporting E-learning Systems** Ming Mao, Yefei Peng and Daqing He
15:00 - 15:30	**On the Design of a Web-Based Decision Support System for Brain Tumour Diagnosis Using Distributed Agents** Carles Arús, Bernardo Celda, Srinandan Dasmahaptra, David Dupplaw, Horacio González-Velez, Sabine Van Huffel, Paul Lewis, Magi Lluch I Ariet, Mariola Mier, Andrew Peet, and Monstserrat Roblesand
15:30 - 16:00	Coffee break
Session IV	
16:00 - 16:24	**Mediating Human Decision Making with Emotional Attitudes in Web Based Decision Support Systems** Rajiv Khosla and Chris Lai
16:24 - 16:48	**Automated Metadata Extraction from Web Sources** Nor Adnan Yahaya and Rosiza Buang
16:48 - 17:12	**Web-Based Support System for Flood Response Operation** Norliza Katuk, Ku Mahamud, K. Ruhana, Norita Norwawi, and S. Deris
17:12 - 17:36	**An Architecture for Dynamical News Providers** Emanuela Falcinelli, Stefano Marcugini, and Alfredo Milani
17:36 - 18:00	**An Open System for Spatial Information Services** Hua Xu, Qiang Wu, Houjie Cao, and Shibo Zhang
Poster Session	
Semantic Interoperating and Accessing Heterogeneous and Autonomous XML Sources Nang Tom Hawm Saw and Khin Haymar Saw Hla	
Web Interact: An e-Learning Support Chima Adiele, Christina E. Adiele and Mohiuddin Rana	

Communication between Human and Artificial Agents

Time	Sessions
December 18, Monday (Room 605)	
Time	**Sessions**
9:00 - 9:10	Welcome by Christel Kemke
9:10 - 9:30	Opening Talk by Elisabeth Andre
9:30 - 10:30	Invited Talk **Visual Attentive Presentation Agents** Helmut Prendinger
10:30 - 11:00	Break
	Session I
11:00 - 11:20	**Ordinary User Oriented Model Construction for Assisting Conversational Agents** David Leray and Jean-Paul Sansonnet
11:20 - 11:40	**Generic Natural Language Command Interpretation in Ontology-based Dialogue Systems** Laurent Mazuel and Nicolas Sabouret
11:40 - 12:00	**Extensibility and Reuse in an Agent-Based Dialogue Model** Anh Nguyen and Wayne Wobcke
12:00 - 12:20	**A Computational Framework for Human/Agent Communication Using Argumentation, Implicit Information, and Social Influence** Jamal Bentahar, Karim Bouzoubaa, and Bernard Moulin
12:20 - 12:40	**Empathic Multiple Tutoring Agents for Multiple Learner Interface** Hua Wang
12:40 - 14:00	Break
	Session II
14:00 - 14:20	**Interactive Intelligent Agent Architecture** Rym Ameur
14:20 - 14:40	**Artificial Agents and the Art of Persuasion** Paul Rudman and Mary Zajicek
14:40 - 15:00	**Defeasible Protocols in Persuasion Dialogues** Ioan Alfred Letia and Raluca Vartic
15:00 - 15:20	**Bayesian Communication under Rough Sets Information** Takashi Matsuhisa
15:20 - 16:00	Break
	Session III
16:00 - 16:20	**Affective Computation Based NPC Behaviors Modeling** Chang-Neng Zhou, Jing-Yu Sun, Xiao-Lin Yan, and Xue-Li Yu
16:20 - 16:40	**SAGE-Lite: An Intelligent Light-weight Multi-agent System** Sana Farooq
16:40 - 17:00	**An Ontology for Observation of Multiagent Based Simulation** Tiana Ralambondrainy, Rémy Courdier, and Denis Payet
17:00 - 17:20	**An Expressive Conversation Language for Artificial Agent of Mixed Community** Alexandra Berger, Sylvie Pesty, and Yannick Fouquet
17:20 - 17:30	**Final Discussion and Closing** Christel Kemke

International Workshop on Web Privacy Intelligence

December 18, Monday (Room 606)	
Time	**Sessions**
8:00 - 8:05	Welcome and Opening Remarks
8:05 - 9:00	Opening Keynote: **Security, Privacy, and Beyond** Dr. Dimitri Kanevsky, IBM Research
9:05 - 9:20	**Trust Negotiations with Customizable Anonymity** Anna Cinzia Squicciarini, Abhilasha Barghav, Elisa Bertino, Elena Ferrari, and Indrakshi Ray
9:25 - 9:40	**Adding User-Level SPACe: Security, Privacy and Context to Intelligent Multimedia Information Architectures** Dawn N. Jutla and Dimitri Kanevsky
9:45 - 10:00	**Efficient Access Control in Wireless Network** Kun Wang, Zhenguo Ding, and Lihua Zhou
10:00 - 10:30	Break
10:30 - 10:45	**Dynamic Hierarchical Distributed Intrusion Detection System Based On Multi-Agent System** Jun Wu
10:50 - 11:05	**Graph-based Abstraction for Privacy Preserving Manifold Visualization** Winston Zhang, William K. Cheung, and C.H Li
11:10 - 11:25	**Bayesian Network Privacy Intrusion Detection** Xiangdong An, Dawn N. Jutla, and Nick Cercone
11:30 - 11:40	**Towards the Diversity of Sensitive Attributes in K-anonymity** Min Wu and Xiaojun Ye
11:40 - 12:28	Closing Keynote: **21st Century Information Security R&D Challenges** Dr. Ming-Yuh Huang, Boeing Research
12:28 - 12:30	Closing Remarks
12:30 - 14:00	Lunch

International Workshop on Semantics in Virtual Organizations and Web Services

December 18, Monday (Room 606)	
Time	**Sessions**
Session I. Semantic Issues	
14:00 - 14:20	**PISGrid: A Semantic Grid Infrastructure of Establishing Dynamic Virtual Organizations According to Requirement for Press Industry** Hejie Chen, Ben Liu, and Wei He
14:20 - 14:40	**Knowledge Discovery from Semi-structured Data for Conceptual Organization** S. Gupta, R. Goyal, K. Shubham, L. Fey, A. Malik, S. Chaudhury, and S. Bhattacharya
14:40 - 15:00	**Semantics Recognition in Service Composition Using Conceptual Graph** Xiaofeng Du, William Song, and Malcolm Munro
15:00 - 15:20	**The Semantic Exchange Method and Architecture on the Heterogeneous Product Information in the Virtual Organization** Chengfeng Jian and Meiyu Zhang
15:20 - 15:40	**Retaining Semantics in Relational Databases by Mapping Them to RDF** Madhav Krishna
15:40 - 16:00	Break
Session II. Modelling and Applications	
16:00 - 16:20	**A Comprehensive RMS Model for P2P e-Commerce Communities** Yuansheng Zhong, Dongping Hu, Maojun Huang, and Deren Chen
16:20 - 16:40	**SLF4SS: Facilitating Flexible Services Selection** Hongbing Wang, Yifei Wang, Joshua Zhexue Huang, and Xun Xu
16:40 - 17:00	**A Semantic-Based Approach to Interoperability of UML Schemas** Nadia Yaacoubi Ayadi, Yann Pollet , and Mohamed Ben Ahmed
17:00 - 17:20	**Verb-Noun Directory for Telecommunications Services Look-up** Yang Li
17:20 - 17:40	**Ontology Development for Insect Morphology and Taxonomy System** Mingquan Zhou, Guohua Geng and Shiguo Huang

First International Workshop on Intelligent Agents in Wireless Sensor Networks

Time	Sessions
December 18, Monday (Room 607)	
Time	Sessions
Session I	
8:00 - 8:20	Welcome
8:20 - 8:45	**Mobile Agent Architecture Integration for a Wireless Sensor Medical Application** John Herbert, John O'Donoghue, Gao Ling, Kai Fei, and Chien-Liang Fok
8:45 - 9:10	**Intelligent Agent Assisted Handover in WLAN and Cellular Networks** Li-Der Chou, Wei-Cheng Lai, Chen-Hau Lin, Yen-Cheng Lin and Chin-Min Huang
9:10 - 9:35	**Distributed Mining of Constrained Patterns from Wireless Sensor Data** Carson Kai-Sang Leung, Quamrul I. Khan, and Boyu Hao
9:35 - 10:00	**A Storage Management for Mining Object Moving Patterns in Object Tracking Sensor Networks** Chih-Chieh Hung and Wen-Chih Peng
10:00 - 10:30	Break
Session II	
10:30 - 10:55	**An Intelligent Multi-hop Routing for Wireless Sensor Networks** Obidul Islam and Sajid Hussain
10:55 - 11:20	**Traffic Scheduling to Prolong the Lifetime of Sensor Networks** Yantao Pan
11:20 - 11:45	**Energy Efficiency of Intrusion Detection Systems in Wireless Sensor Networks** Piya Techateerawat and Andrew Jennings
11:45 - 12:30	**Discussion and Closing Remarks**
12:30 - 14:00	Lunch

International Workshop on Intelligent Web Interaction

Time	Sessions
December 18, Monday (Room 607)	
Time	Sessions
14:10 - 14:15	Opening
Session I: Interactive IR for the Web	
14:15 - 14:35	**A Study on Information Recommendation System that Provides Topical Information Related to User's Inquiry for Information Retrieval** Ichiro Kobayashi and Mai Saito
14:35 - 14:55	**Support Vector Machines based Active Learning for the Relevance Feedback Document Retrieval** Takashi Onoda, Hiroshi Murata and Seiji Yamada
14:55 - 15:15	**One Class Classification Methods based Non-Relevance Feedback Document Retrieval** Takashi Onoda, Hiroshi Murata and Seiji Yamada
15:15 - 15:35	**An Embodied Conversational Agent for Intelligent Web Interaction on Pandemic Crisis Communication** Ong Sing Goh, Chun Che Fung, Kok Wai Wong and Arnold Depickere
15:35 - 16:00	Break
Session II: Interactive Visualization on the Web	
16:00 - 16:20	**Towards the Detection of Breaking News from Online Web Search Keywords** Tsuyoshi Murata
16:20 - 16:40	**Extracting Topic Maps from Web Histories by Clustering with Web Structure and Contents** Motohiro Mase and Seiji Yamada
16:40 - 17:00	**Behavior-Based Web Page Evaluation** Ganesan Velayathan and Seiji Yamada
17:00 - 17:20	**Visualization of News Distribution in Blog Space** Yasufumi Takama, Akio Matsumura and Tomoki Kajinami
17:20 - 17:30	Break
Session III: Interactive Platform on the Web	
17:30 - 17:50	**Active : A Unified Platform for Bbuilding Intelligent Web Interaction Assistants** Didier Guzzoni, Adam Cheyer and Charles Baur
17:50 - 18:10	**Finding Unknown Interests Utilizing the Wisdom of Crowds in a Social Bookmark Service** Kei Shiratsuchi, Shinichiro Yoshii and Masashi Furukawa
18:10 - 18:30	***KawaWiki: A Semantic Wiki Based on RDF Templates*** Kensaku Kawamoto, Yasuhiko Kitamura and Yuri Tijerino
18:30 - 18:35	Closing

International Workshop on Adaptation and Personalization for e-Business Intelligence

Time	Sessions
	December 18, Monday (Room 608)
	Session I
9:00 - 9:30	**An Exploratory Study of Incorporating Task-stage Identification into a Long-term Document Support Process** I-Chin Wu and Pei-Cheng Chang
9:30 - 10:00	**Using Soft Clustering Technique in Adaptive Web Site** Mohamed Ismail and Rasha Abdelkawy Shokry
10:00 - 11:00	Break
11:00 - 11:30	**Web-service Based Information Integration for e-Financial Planning System Matchmaking Decision Support** Kelvin K.K. Lee, Dickson K.W. Chiu and Patrick C.K. Hung
11:30 - 12:00	**Enhanced Recommendations through Propagation of Trust and Distrust** Patricia Victor, Chris Cornelis and Martine De Cock
12:00 - 12:30	**The Role of Content in m-Commerce and the Personalization Dimension** Spiridoula Koukia, Maria Rigou, and Spiros Sirmakessis
12:30 - 14:00	Lunch

International Workshop on P2P Computing and Autonomous Agents

Time	Sessions
	December 18, Monday (Room 608)
	Session I Session Chair: Khaled Ragab
14:00 -14:25	**Modeling and Analyzing Peer-to-Peer File-Sharing System** Jun Li and Shunyi Zhang
14:25 -15:50	**A Novel Stochastic Algorithm for Scheduling QoS-Constrained Workflows in a Web Service-Oriented Grid** Yash Patel and John Darlington
15:50 – 15:15	**Protocol and Connectivity Based Overlay Level Capacity Calculation of P2P Networks** Kasim Öztoprak and Hürevren Kiliç
15:15 – 15:40	**Small World Architecture for Peer-to-Peer Networks** Lu Liu, Stephen Mackin, and Nick Antonopoulos
15:40 – 16:05	**<K, D>-Interleaving Structuring Technique for Peer-Peer Overlay Network** Khaled Ragab and Akinori Yonezawa
	Session II Session Chair: TBD
16:30 -16:55	**Design Patterns Usage in Peer-to-Peer Systems - An Empirical Analysis** Markus Aleksy, Axel Korthaus, and Christian Seifried
16:55 -17:20	**Process Matchmaking on a P2P Environment** Remzi Çelebi, Hüseyin Ellezer, Cem Baylam, İbrahim CerecI and Hürevren Kiliç
17:20 – 17:45	**An Experimental Study of Active Recommendation Mechanism Based Distributed Approximate Indexing in Unstructured P2P Networks** Jiaqing Luo, Shijie Zhou and Chunjiang Wu
17:45 – 18:10	**Content-Based Clustered P2P Search Model Depending on Set Distance** Jing Wang and Shoubao Yang
18:10 – 18:35	**Toward Efficient Peer-to-Peer Information Retrieval Based on Textual Entailment** Yasser Kotb

International Workshop on Granular Computing and Brain Informatics for WI

December 18, Monday (Room 609)	
Time	**Sessions**
9:00-9:20	**Multi-aspect ERP Data Analysis for Understanding Human Calculation Related Information Processing Mechanism** Shinichi Motomura, Akinori Hara, Ning Zhong and Jing-Long Wu
9:20-9:40	**Incomplete Information Systems Processing Based on Fuzzy-Clustering** Qinghua Zhang, Guoying Wang, Jun Hu, and Xianquan Liu
9:40-10:00	**Discernibility Matrix Based Algorithm for Reduction of Attributes** Ruizhi Wang, Duoqian Miao, and Guirong Hu
10:00-10:30	Coffee break
10:30-10:50	**Properties of the Second Type of Covering-Based Rough Sets** William Zhu
10:50-11:10	**A Modified Chi2 Algorithm Based on the Significance of Attribute** Hao Zhang, Duoqian Miao, and Ruizhi Wang
11:10-11:30	**Uncertainty Measure of Covering Generated Rough Set** Jun Hu, Guoyin Wang, and Qinghua Zhang

International Workshop on Multi-agent Systems in E-Business: Concepts, Technologies and Applications

December 18, Monday (Room 609)	
Time	**Sessions**
Session I	
14:00 - 14:20	**TrAgent: A Multi-agent System for Stock Exchange** Raju Tatikunta, Shahram Rahimi, Pranav Shrestha, and Johan Bjursel
14:20 - 14:40	**Multi-agent Coordination Based on Semantic Approximation** Yinglong Ma, Kehe Wu, Yi Zheng, and Wei Li
14:40 - 15:00	**A Consensus-Based Approach for Ontology Integration** Ngoc Thanh Nguyen and Michał Rusin
15:00 - 15:20	**Strategic Issues in Trading Agent Competition: TAC-Classic** Francisco Oliveira and Yain-Whar Si
15:20 - 15:40	**A Classification Structure for Automated Negotiations** Ricardo Büttner
15:40 - 16:20	Break
Session II	
16:20 - 16:40	**Agent Based Multi-attribute Negotiation for Large-Scale Construction Project Supply Chain Coordination** Xiaolong Xue, Yaowu Wang, and Qiping Shen
16:40 - 17:00	**A Novel Fuzzy Attitude Based Bidding Strategy for Multi-attribute Auction** Madhu Goyal, Jie Lu and Guangquan Zhang
17:00 - 17:20	**The 'MECIMPLAN' Approach to Agent-Based Strategic Planning** José Miguel Castillo, Sascha Ossowski, and Luis Pastor
17:20 - 17:40	**Integrating Processes of Logistics Outsourcing Risk Management in E-business** Juan Xu, Zhixue Liu, and Yan Li
17:40 - 18:00	**Formal Models in Web Based Contracting** José Machado, Francisco Andrade, José Neves, Paulo Novais and Cesar Analide

International Workshop on Technologies and Applications of Knowledge Computing on the Web

Time	Sessions
December 18, Monday (Room 610)	
8.30 – 10.00	**Web Services Selection Based on Multiple-Aspect Similarity Function** Hui-Na Chua and S.M.F.D Syed Mustapha
	A Voting Method for the Classification of Web Pages Rui Fang, Alexander Mikroyannidis and Babis Theodoulidis
	Multi-level Link Structure Analysis Technique for Detecting Link Farm Spam Pages Tan Su Tung, Nor Adnan Yahaya, and S.M.F.D Syed Mustapha
	Metasynthetic Decision Support System for Water Resource Management Yongjin Zhang, Yiming Su, Wei Zhou, and Jiancang Xie
10:00 - 10:30	Break
10.30 – 12.30	**An Agent-Based Testing Subsystem in an E-learning Environment** V. E. Cabukovski
	A Novel Partitioning-Based Clustering Method and Generic Document Summarization Ramiz M. Aliguliyev
	Semantic Web Infrastructure Using DataPile Jakub Yaghob and Filip Zavoral
	A Dual-Method Model for Copy Detection Yunyi Liu and Liang Liang
	Semantic Labeling of Data by Using the Web Leonardo Rigutini, Ernesto Di Iorio, Marco Ernandes and Marco Maggini

International Workshop on Research of Agent-based Government Horizon Business Integration Management Systems

Time	Sessions
December 18, Monday (Room 610)	
14:00 - 14:30	**A System Structure Design of Government's Information Resource Integration Based on Agent** Wang Ning
14:30 - 15:00	**Research on the Integration in E-government Based on Multi-Agent** Peng Zhang
15:00 - 15:30	**Contents and Development Trends of GHBIMS** Wang Xuehua
15:30 - 16:00	**A new Information Exchange Model Based on the Multi-Agent** YANG Xing-kai and Yan-zhang WANG
16:00 - 16:30	**Research of E-Government Knowledge Navigation System Based on XTM** QiuJiangnan

Program at a Glance (ICDM Workshops)

Time	December 18, Monday							
	Sessions							
Venue	Room 401	Room 402	Room 403	Room 404	Room 405	Room 406	Room 407	Room 408
8:00-12:30	International Workshop on Data Mining in Bioinformatics	The Second International Workshop on Mining Complex Data	International Workshop on Data Mining for Design and Marketing 2006	Foundation of Data Mining and Novel Techniques in High Dimensional Structural and Unstructured Data	Optimization-based Data Mining Techniques with Applications	IEEE International Workshop on Reliability Issues of Knowledge Discovery	IEEE International Workshop on Mining Evolving and Streaming Data	Workshop on Ontology Mining and Knowledge Discovery from Semistructured documents
12:30-14:00	Lunch							
14:00-19:00	International Workshop on Data Mining in Bioinformatics	The Second International Workshop on Mining Complex Data	International Workshop on Privacy Aspects of Data Mining	Foundation of Data Mining and Novel Techniques in High Dimensional Structural and Unstructured Data	Optimization-based Data Mining Techniques with Applications	Workshop on Risk Mining 2006 - Data Mining for Detection, Analysis and Utilization of Risk Information	First International Workshop on Spatial and Spatio-temporal Data Mining	Workshop on Ontology Mining and Knowledge Discovery from Semistructured documents

International Workshop on Data Mining in Bioinformatics

December 18, Monday (Room: 401)	
Time	**Sessions**
8:00 - 8:05	Opening Remarks by Chair - Prof. Tony Hu
8:05 - 8:30	Plenary Invited Speech 1 **Clustering Support Vector Machines with Application to Prediction of Protein Local Tertiary Structures** Prof. Yi Pan
	Data Mining in Bioinformatics I (Chair: Prof. Tony Hu)
8:30 - 8:45	**Predictive Integration of Gene Ontology-Driven Similarity and Functional Interactions** Francisco Azuaje, Haiying Wang, Huiru Zheng, Olivier Bodenreider, and Alban Chesneau
8:45 - 9:00	**A Graph-Theoretic Method for Mining Functional Modules in Large Sparse Protein Interaction Networks** Shihua Zhang, Hong-Wei Liu, Xue-Mei Ning, and Xiang-Sun Zhang
9:00-9:15	**Mining Information Extraction Models for HmtDB annotation** Margherita Berardi, Donato Malerba, and Marcella Attimonelli
9:15-9:30	**Context-Aware Visual Exploration of Molecular Databases** Giuseppe Di Fatta, Antonino Fiannaca, Riccardo Rizzo, Alfonso Maurizio Urso, Michael R. Berthold, and Salvatore Gaglio
9:30-9:45	**Sparse Logistic Classifiers for Interpretable Protein Homology Detection** Pai-Hsi Huang and Vladimir Pavlovic
9:45-10:00	**Application of Graph-based Data Mining to Metabolic Pathways** Chang hun You, Lawrence Holder, and Diane Cook
10:00 - 10:30	Coffee Break
	Data Mining in Bioinformatics II (Chair: Prof. Tharam Dillon)
10:30-11:00	**Genome Data Type: a Vehicle to Deliver a Genome Comparison System on the Web** Sun Kim, Kwangmin Choi, and Amit Saple
11:00-11:15	**Using image classification for biomedical literature retrieval** Brigitte Mathiak, Andreas Kupfer, Tatjana Scope, Britta Stoermann, and Silke Eckstein
11:15-11:30	**Automated Hierarchical Density Shaving: A robust, automated clustering and visualization framework for large biological datasets** Gunjan Gupta, Alexander Liu, and Joydeep Ghosh
11:30-11:45	**Identification of Overlapping Functional Modules in Protein Interaction Networks: Information Flow-based Approach** Young-Rae Cho, Woochang Hwang, and Aidong Zhang
11:45-12:00	**Global Biclustering of Microarray Data** Thomas Wolf, Benedikt Brors, Thomas Hofmann, and Elisabeth Georgii
12:00-12:30	**GCA: a Coclustering Algorithm for Thalamo-Cortico-Thalamic Connectivity Analysis** Cui Lin, Shiyong Lu, Xuwei Liang, and Jing Hua
12:30 - 14:00	Lunch Break
14:00 - 14:05	Opening Remarks by Chair - Prof. Tharam S. Dillon
14:05 - 14:30	Plenary Invited Speech 2 **Mining Substructures in Protein Data** Prof. Tharam S. Dillon
	Data Mining in Bioinformatics III (Chair: Prof. Tharam Dillon)
14:30-14:45	**Robust Feature Extraction and Reduction of Mass Spectrometry Data for Cancer Classification** Tuan D. Pham, Vikram Chandramohan, Xiaobo Zhou, and Stephen T. C. Wong
14:45-15:00	**Subspace Clustering of High-dimensional SNP Data with Application to Genomics** Michael K. Ng, Mark J. Li, Sio I. Ao, Pak C. Sham, Yiu-ming Cheung, and Joshua Z. Huang
15:00-15:15	**Uncovering Potential Attribute Relevance via MIA-Processing in Data Mining** Sam Chao and Yiping Li
15:15-15:30	**Minimum Redundancy Gene Selection Based on Grey Relational Analysis** Li-Juan Zhang, Zhou-Jun Li, and Huo-Wang Chen
15:30-15:45	**Inference of Gene Regulatory Networks from Time Series Expression Data: A Data Mining Approach** Patrick Ma and Chun Chung Chan
15:25 - 15:40	**Fuzzy-Granular Gene Selection from Microarray Expression Data** Yuanchen He, Yuchun Tang, Yan-Qing Zhang, and Rajshekhar Sunderraman
16:00 - 16:30	Coffee Break
	Data Mining in Bioinformatics IV (Chair: Prof. Tony Hu)
16:30-16:45	**Discovering Frequent Poly-Regions in DNA Sequences** Panagiotis Papapetrou, Gary Benson, and George Kollios
16:45-17:00	**A Maximum Likelihood Approach to Noise Estimation for Intensity Measurements in Biology** Frank Klawonn, Claudia Hundertmark, and Lothar Jänsch
17:00-17:15	**Feature Selection on High Throughput SELDI-TOF Mass-Spectrometry Data for Identifying Biomarker Candidates in Ovarian and Prostate Cancer** Claudia Plant, Melanie Osl, Bernhard Tilg, and Christian Baumgartner
17:15-17:30	**A Machine Learning Approach for Automatic Delineation of Head and Neck Cancer in Histological Slides** Mutlu Mete, Xiaowei Xu, Chun-Yang Fan, and Gal Shafirstein
17:30-17:45	**Consensus Clustering for Detection of Overlapping Clusters in Microarray Data** Meghana Deodhar and Joydeep Ghosh
17:45-18:00	**Significance Analysis and Improved Discovery of Differentially Co-expressed Gene Sets in Microarray Data** Haixia Li and R. Krishna Murthy Karuturi
18:00-18:15	**Modeling Multiple Time Units Delayed Gene Regulatory Network Using Dynamic Bayesian Network** Zhengzheng Xing and Dan Wu

The Second International Workshop on Mining Complex Data

December 18, Monday (Room: 402)	
Time	**Sessions**
	Complex Data I
8:00 - 8:20	**Full Perfect Extension Pruning for Frequent Graph Mining** Christian Borgelt and Thorsten Meinl
8:20 - 8:40	**Designing and Evaluating an Index for Graph Structured Data** Stanislav Barton and Pavel Zezula
8:40 - 9:00	**Dealing with Missing Values in a Probabilistic Decision Tree during Classification** Lamis HAWARAH, Ana SIMONET, and Michel SIMONET
9:00 - 9:20	**Fast Frequent Free Tree Mining in Graph Databases** Peixiang Zhao and Jeffrey Yu
9:20 - 9:40	**Tree Construction from Multidimensional Structured Data** Tomoki Watanuma, Tomonobu Ozaki,, and Takenao Ohkawa
9:40 - 10:00	**Efficient Mining of Closed Induced Ordered Subtrees in Tree-structured Databases** Tomonobu Ozaki and Takenao Ohkawa
10:00 - 10:30	Break
	Complex Data II
10:30 - 10:50	**A Parallel Algorithm for Enumerating All Maximal Cliques in Complex Network** Nan Du, Bin Wu, Liutong Xu, and Xin Pei
10:50 - 11:10	**Extracting Communities from Complex Networks by the k-dense Method** Kazumi Saito, Takeshi Yamada, and Kazuhiro Kazama
11:10 - 11:30	**Mining System for Community Finding of Virtual User Network on the Internet** Sen Qin, Guan-zhong Dai, and Yan-ling Li
11:30 - 11:50	**Segmentation of Evolving Complex Data and Generation of Models** Corrado Loglisci
11:50 - 12:10	**A Method to Classify Data by Fuzzy Rule Extraction from Imbalanced Datasets** Vicen Soler, Jesus Cerquides, Josep Sabria, Jordi Roig, and Marta Prim
12:30 - 14:00	Lunch
	Complex Data III
14:00 - 14:20	**Variant Bayesian Networks** Qingsong Peng, Ming Zhang, Weimin Wu, and Ronggui Wang
14:20 - 14:40	**A Probability Distribution of Functional Random Variable with a Functional Data Analysis Application** Etienne Cuvelier and Monique Noirhomme-Fraiture
14:40 - 15:00	**Comparison of MACLAW with Several Attribute Selection Methods for Classification in Hyperspectral Images** Alexandre Blansch Annett Wania, and Pierre Ganski
15:00 - 15:20	**Development of Expanding Model of Rough Set for Data Mining** Jianjun Hao and Yuejin Ma
15:20 - 15:40	**Evaluating Learning Algorithms Composed by a Constructive Meta-Learning Scheme for a Rule Evaluation Support Method** Hidenao Abe, Shusaku Tsumoto, Miho Ohsaki, Hideto Yokoi, and Takahira Yamaguchi
15:40 - 16:00	**Discovering Manufacturing Process from Timed Data : the BJT4R Algorithm** Nabil Benayadi, Marc Le Goc, and Philippe Bouch
16:00 - 16:30	Break
	Complex Data IV
16:30 - 16:50	**Kernel-based Algorithm and Visualization for Interval Data Mining** Thanh-Nghi DO and Francois POULET
16:50 - 17:10	**A Comparison of Personal Name Matching: Techniques and Practical Issues** Peter Christen
17:10 - 17:30	**Efficient Clustering for Orders** Toshihiro Kamishima and Shotaro Akaho
17:30 - 18:00	Discussion

International Workshop on Data Mining for Design and Marketing 2006

December 18, Monday (Room: 403)	
Time	**Sessions**
Session I: Complicated Data	
8:00 - 8:24	**Market Research Design on Modeling Propensity to Purchase and Market Potential: Using GIS and Data Mining as the Tools** L. Zhao and J. Harris
8:24 - 8:48	**The River-Rafting System for Knowledge Discovery Related to Persuasion Process Conversation Logs** W. Sunayama and K. Yada
8:48 - 9:12	**Mining Chinese Reviews** B. Shi and K. Chang
9:12 - 9:36	**Estimation System of People's Freindship and Hierarchical Relationship from Sentence Types** Y. Nishihara, W. Sunayama and M. Yachida
9:36 - 10:00	**Designing New Product Scenarios for Patent by Human-Interactive Annealing with Pictogram** K. Horie and Y. Ohsawa
10:00 - 10:30	Coffee Break
Session II:Time-series Data and New Algorithms	
10:30 - 10:54	**A Pattern Mining from POS Data using a Historical Tree** T. Nakahara and H. Morita
10:54 - 11:18	**On Cluster Evolution: An Integrated Approach to Discovering and Describing Changes** D. Fleder and B. Padmanabhan
11:18 - 11:42	**A Method to Search ARX Model Orders and Its Application to Sales Dynamics Analysis** K. Fukata, T. Washio and H. Motoda
11:42 - 12:06	**Association Bundle -A New Pattern for Association Analysis** W. Huang, M. Kmeta, L. Lin and J. Wu
12:06 - 12:30	**Exploring Business Opportunities from Mobile Service Data of Customers Using Inter-clustering Analysis** I. Bose and C. Xi
12:30 - 14:00	Lunch

International Workshop on Privacy Aspects of Data Mining

December 18, Monday (Room: 403)	
Time	**Sessions**
13:00 - 14:00	Lunch
14:00 - 14:40	Invited Talk: Hillol Kargupta
14:40 - 15:00	**The Applicability of the Perturbation Model-Based Privacy Preserving Data Mining for Real-World Data** Li Liu, Murat Kantarcioglu, and Bhavani Thuraisingham
15:00 - 15:20	**NNMF-Based Factorization Techniques for High-Accuracy Privacy Protection on Non-negative-valued Datasets** Jie Wang, Weijun Zhong, and Jun Zhang
15:20 - 15:40	**An Approach to Outsourcing Data Mining Tasks While Protecting Business Intelligence** Ling Qiu, Yingjiu Li, and Xintao Wu
15:40 - 16:00	**Preserving Private Knowledge in Frequent Pattern Mining** Zhihui Wang, Wei Wang, Baile Shi, and S. H. Boey
16:00 - 16:30	Coffee Break
16:30 - 16:50	**Optimal k-Anonymity with Flexible Generalization Schemes through Bottom-Up Searching** Tiancheng Li and Ninghui Li
16:50 - 17:10	**A Max-Min Approach for Hiding Frequent Itemsets** George V. Moustakides and Vassilios S. Verykios
17:10 - 17:30	**Transforming Semi-honest Protocols to Ensure Accountability** Wei Jiang and Chris Clifton
17:30 - 17:50	**Privacy Preserving Nearest Neighbor Search** Mark Shaneck, Yongdae Kim, and Vipin Kumar
17:50 - 18:10	**A Crypto-based Approach to Privacy-Preserving Collaborative Data Mining** Justin Zhan and Stan Matwin
18:10 - 18:30	**Privacy-Preserving Data Imputation** Geetha Jagannathan and Rebecca N. Wright
18:30 - 18:50	**Privacy-Preserving Data Linkage and Geocoding: Current Approaches and Research** Peter Christen

Foundation of Data Mining and Novel Techniques in High Dimensional Structural and Unstructured Data

Time	Sessions
December 18, Monday (Room: 404)	
8:00 – 10:00	**A Systemic Framework for the Field of Data Mining and Knowledge Discovery Yi** Peng, Gang Kou, Yong Shi, and Zhengxin Chen **Modeling Dynamic Substate Chains among Massive States for Prediction Nguyen** Viet Phuong and Takashi Washio **Mining the Future: Predicting Itemsets' Support of Association Rules Mining** Shenoda Guirguis, Khalil M. Ahmed, Nagwa M. El Makky, and Alaaeldin M Hafez **Properties of the First Type of Covering-Based Rough Sets William Zhu and** Fei-Yue Wang **Many Sorted Observational Calculi for Multi-relational Data Mining** Jan Rauch
10:00 - 10.30	Coffee break
10.30 - 12.30	**Knowledge Discovery across Documents through Concept Chain Queries** **Wei Jin and Rohini K. Srihari** **Concept Analysis and Web Clustering Using Combinatorial Topology** **Tsau Young Lin, Albert Sutojo, and Jean-David Hsu** **Keyword Generation for Search Engine Advertising** **Amruta Joshi and Rajeev Motwani** **Understanding the Web Page Layout** **Minghong Zhou, Rubao Li, and Wei Li** **Extracting Informative Rules from High Dimensional Data Using a Numerical Approach** Nicolas Carrez, Jean-Charles Lamirel, and Shadi Al Shehabi
12.30 – 14:00	Lunch
14:00 – 16:00	**Input Validation for Semi-supervised Clustering** Kevin Y. Yip, Michael K. Ng and David W. Cheung **Algorithms on Discretizing Continuous Attributes Values and Its Application to Synthetical Test and Evaluation of Patent Strength** Minghua Zeng, Xiongfeng Pan, and Qing Liu **An Improved Feature Representation Method for Maximum Entropy Model** Guan Yi and Zhao Jian **Residual Matrix and Statistical Independence in a Contingency Table** Shusaku Tsumoto and Shoji Hirano **Efficiently Mining Maximal 1-Complete Regions from Dense Datasets** Haiyun Bian and Raj Bhatnagar
16:00 - 16.30	Coffee break
16.30 - 18.30	**Segmentation of Time Series by the Clustering and Genetic Algorithms** Vincent S. Tseng, Chun-Hao Chen, Chien-Hsiang Chen, and Tzung-Pei Hong **Cascaded Data Mining Methods for Text Understanding, with Medical Case Study** Roni Romano, Lior Rokach, and Oded Maimon **A Simple Genetic Algorithm for Tracing the Deformed Midline on a Single Slice of Brain CT Using Quadratic Bezier Curves** Chun-Chih Liao, Furen Xiao, Jau-Min Wong, and I-Jen Chiang **Towards Enterprise Archeology: Extracting Business Processes from Runtime Event Data** Asuman Suenbuel and Ming-Shien Shan

Optimization-based Data Mining Techniques with Applications

Time	Sessions
	December 18, Monday (Room: 405)
	Opening and Welcome
8:00 – 10:00	**An Improved Genetic k-means Algorithm for Optimal Clustering** Hai-xiang Guo, Ke-jun Zhu, Si-wei Gao, and Ting Liu
	A Mixed Process Neural Network and Its Application to Churn Prediction in Mobile Communications Guojie Song, Dongqing Yang, Ling Wu, Tengjiao Wang, and Shiwei Tang
	Network Intrusion Detection by Multi-group Mathematical Programming Based Classifier Gang Kou, Yi Peng, Yong Shi, and Zhengxin Chen
	Data Envelopment Analysis Assessment Machine Quanling Wei and Hong Yan
10:00 - 10:30	coffee break
10:30 - 11:00	**Unsupervised and Semi-supervised Two-Class Support Vector Machines** Zhao Kun, Tian Ying-jie, and Deng Nai-yang
11:00 - 11:30	**Credit Assessment: A Least Squares Support Feature Machine Approach** Jianping Li, Zhenyu Chen, and Weixuan Xu
11:30 - 12:00	**Credit Risk Assessment with Least Squares Fuzzy Support Vector Machines** Lean Yu, Kin Keung Lai, and Shouyang Wang
12:00 - 12:30	**A Data Mining Approach to Classify Credit Cardholders' Behavior** Aihua Li, Yong Shi, Meihong Zhu, and Jingran Dai
12:30 - 14:00	lunch break
14:00 - 14:24	**A Knowledge Management Platform for Optimization-Based Data Mining** Xingsen Li, Yong Shi, Ying Liu, Jun Li, and Aihua Li
14:24 - 14:48	**A Hybrid Strategy for Clustering Data Mining Documents** Yi Peng, Gang Kou, Yong Shi, and Zhengxin Chen
14:48 - 15:12	**The Analysis on the Customers Churn of Charge Email Based on Data Mining -Take One Internet Company for Example** Guangli Nie, Lingling Zhang, Xingsen Li, and Yong Shi
15:12 - 15:36	**An Effective Hypergraph Clustering in Multi-stage Data Mining of Traditional Chinese Medicine Syndrome Differentiation** Bo Wang, Ming-Wei Zhang, Bin Zhang, and Wei-Jie Wei
15:36 - 16:00	**A Better Classifier Based on Rough Set and Neural Network for Medical Images** Jiang Yun, Li Zhanhuai, Wang Yong, and Zhang Longbo
16:00 - 16:30	coffee break
16:30 - 16:54	**Influencing Factors in Achieving Active Ageing Concepts** Richi Nayak, Laurie Buys, and Jan Lovie-Kitchin
16:54 - 17:18	**Optimization Approaches for Semi-supervised Multiclass Classification** Yasutoshi Yajima and Tien-Fang Kuo
17:18 - 17:42	**A RBF Classifier with Supervised Center Selection and Weighted Norm** Rong Liu and Yong Shi
17:42 - 18:06	**Improved Logistic Regression Approach to Predict the Potential Distribution of Invasive Species Using Information Theory and Frequency Statistics** Hao Chen, Lijun Chen, Thomas P. Albright, and Qinfeng Guo
18:06 - 18:30	**A Probabilistic Ensemble Pruning Algorithm** Huanhuan Chen, Peter Tino, and Xin Yao

IEEE International Workshop on Reliability Issues of Knowledge Discovery

Time	Sessions
December 18, Monday (Room: 406)	
Time	**Sessions**
Session I: Honghua Dai (Chair)	
8:00 - 8:10	Chair Introduction
8:10 - 8:35	**Mining the Most Reliable Association Rules with Composite Items** Ke Wang, James N. K. Liu, and Wei-min Ma
8:35 - 9:00	**Enhancing Reliability throughout Knowledge Discovery Process** Yi Feng, Zhaohui Wu, and Zhongmei Zhou
9:00 - 9:25	**Reducing Performance Bias for Unbalanced Text Mining** Ling Zhuang and Honghua Dai
9:25 - 9:50	**Theoretical and Experimental Study of a Meta-typicalness Approach for Reliable Classification** E.N. Smirnov and A. Kaptein
9:50 - 10:00	Questions and Discussion
10:00 - 10:30	Tea Break
Session II: James Liu (Chair)	
10:30 - 10:55	**A Study on Reliability in Graph Discovery** Honghua Dai
10:55 - 11:20	**On Statistical Measures for Selecting Pertinent Formal Concepts to Discover Production Rules from Data** Mondher Maddouri and Fatma Kaabi
11:20 - 11:40	**Proposal of Medical KDD Support User Interface Utilizing Rule Interestingness Measures** Miho Ohsaki, Hidenao Abe, Shusaku Tsumoto, Hideto Yokoi, and Takahira Yamaguchi
11:40 - 12:00	**Generalizing Version Space Support Vector Machines for Non-separable Data** E.N. Smirnov, I.G. Sprinkhuizen-Kuyper, and N.I. Nikolaev
12:00 - 12:20	**Challenges and Interesting Research Directions in Associative Classification** Fadi Thabtah
12:20 - 12:30	Discussion on Challenge and Future Research Directions

Workshop on Risk Mining 2006 - Data Mining for Detection, Analysis and Utilization of Risk Information

Time	Sessions
December 18, Monday (Room: 406)	
Time	**Sessions**
Chair: Takashi Washio	
14:00 - 14:24	**Risk Mining in Hospital Information Systems** Shusaku Tsumoto, Kimiko Matsuoka, and Shigeki Yokoyama
14:24 - 14:48	**Cooperation between Abductive and Inductive Nursing Risk Management** Akinori Abe, Hiromi Itoh Ozaku, Noriaki Kuwahara, and Kiyoshi Kogure
14:48 - 15:12	**Human-Interactive Annealing for Turning Threat to Opportunity in Technology Development** Yoshiharu Maeno, Kiichi Ito, Kenichi Horie, and Yukio Ohsawa
15:12 - 15:36	**Asset Valuation Technique for Network Management and Security** Luc Beaudoin and P. Eng
15:36 - 16:00	**Unusual Condition Mining for Risk Management of Hydroelectric Power Plants** Takashi Onoda, Norihiko Ito, and Hironobu Yamasaki
Chair: Kenichi Yoshida	
16:30 - 16:54	**A Neural Networks Approach for Software Risk Analysis** Yong Hu, Juhua Chen, Zhenbang Rong, Mei Liu, and Kang Xie
16:54 - 17:18	**Chance Discovery in Credit Risk Management -Estimation of Chain Reaction Bankruptcy Structure by Chance Discovery Method** Shinichi Goda and Yukio Ohsawa
17:18 - 17:42	**A Mining Method of Communities Keeping Tacit Knowledge** Ryutaro Ichise, Hideaki Takeda, Satoshi Kouno, and Taichi Muraki
17:42 - 18:06	**Classification and Clustering: A Perspective toward Risk Mining** Sadaaki Miyamoto
18:06 - 18:30	**Hierarchical Agglomerative Clustering Based T-outlier Detection** Dajun Wang, Paul J. Fortier, Howard E. Michel, and Theophano Mitsa

IEEE International Workshop on Mining Evolving and Streaming Data

Time	Sessions
December 18, Monday (Room: 407)	
8:00 – 10:00	**Communal Detection of Implicit Personal Identity Streams** Clifton Phua, Ross Gayler, Kate Smith-Miles, and Vincent Lee **Fuzzy Related Classification Approach Based on Semantic Measurement for Web Document** Hui Zhang and Han-Tao Song **Online Change Detection: Monitoring Land Cover from Remotely Sensed Data** Yi Fang, Auroop R. Ganguly, Nagendra Singh, Veeraraghavan Vijayaraj, Neal Feierabend, and David T.Potere **Modeling Evaluation of Continuous Queries on Sliding Windows** Anita Dani and Janusz Getta **Unsupervised Clustering in Streaming Data** Dimitris K. Tasoulis, Niall M. Adams, and David J. Hand **Evolving Extended Naive Bayes Classifiers** Frank Klawonn and Plamen Angelov **Mining and Predicting Duplication over Peer-to-Peer Query Streams** Shicong Meng, Yifeng Shao, Cong Shi, Dingyi Han, and Yong Yu
10:00 -10:30	Coffee break
10:30 -12:30	**Clustering-Training for Data Stream Mining** Shuang Wu, Chunyu Yang, and Jie Zhou **An Evaluation of Progressive Sampling for Imbalanced Data Sets** Willie Ng and Manoranjan Dash **Efficient Reservoir Sampling for Transactional Data Streams** Manoranjan Dash and Willie Ng **Dynamic Algorithm for Graph Clustering Using Minimum Cut Tree** Barna Saha and Pabitra Mitra **A New Algorithm for Maintaining Closed Frequent Itemsets in Data Streams by Incremental Updates** Hua-Fu Li, Chin-Chuan Ho, Fang-Fei Kuo, and Suh-Yin Lee **Incremental Mining of Sequential Patterns over a Stream Sliding Window** Chin-Chuan Ho, Hua-Fu Li, Fang-Fei Kuo, and Suh-Yin Lee **HClustream: A Novel Approach for Clustering Evolving Heterogeneous Data Stream** Chunyu Yang and Jie Zhou

First International Workshop on Spatial and Spatio-temporal Data Mining

Time	Sessions
December 18, Monday (Room: 407)	
14:00 - 15:00	Invited talk **What is special about spatial data mining?** Shashi Shekhar, University of Minnesota
	Session A — Summarization and Compression
15:00 - 15:20	**Feature Subset Selection on Multivariate Time Series with Extremely Large Spatial Features** Hyunjin Yoon and Cyrus Shahabi
15:20 - 15:40	**A Multi-resolution Compression Scheme for Efficient Window Queries over Road Network Databases** Ali Khoshgozaran, Ali Khodaei, Mehdi Sharifzadeh, and Cyrus Shahabi
15:40 - 16:00	**Discovering and Summarising Regions of Correlated Spatio-temporal Change in Evolving Graphs** Jeffrey Chan, James Bailey, and Christopher Leckie
16:00 - 16.30	Coffee break
	Session B — Potpourri
16:30 - 16:50	**Spatial Multidimensional Sequence Clustering** Ira Assent, Ralph Krieger, Boris Glavic, and Thomas Seidl
16:50 - 17:10	**Trajectory Analysis for Soccer Players** Chan-Hyun Kang, Jung-Rae Hwang, and Ki-Joune Li
17:10 - 17:30	**Context-Inclusive Approach to Speed-up Function Evaluation for Statistical Queries: An Extended Abstract** Vijay Gandhi, James M. Kang, Shashi Shekhar, Junchang Ju, Eric D. Kolaczyk, and Sucharita Gopal
17:30 - 17:50	**Discovering Association Patterns in Large Spatio-temporal Databases** Eric M.H. Lee and Keith C.C. Chan
17:50 - 18:10	**k-STARs: Sequences of Spatio-temporal Association Rules** Florian Verhein
18:10 - 18:30	**Similarity of Temporal Query Logs Based on ARIMA Models** Ning Liu, Shuzhen Nong, Jun Yan, Benyu Zhang, Zheng Chen, and Ying Li

Workshop on Ontology Mining and Knowledge Discovery from Semistructured documents

Time	Sessions
December 18, Monday (Room: 408)	
Time	**Sessions**
Key Note Address and Session I: Clustering (Session chair: Richi Nayak)	
8:30 - 8:35	Opening and Welcome
8:35 - 9:35	**Keynote Talk** Mohammad Zaki
9:35 - 10:00	**Clustering Workflow Requirements Using Compression Dissimilarity Measure** Li Wei, John Handley, Nathaniel Martin, Tong Sun, and Eamonn Keogh
10:00 - 10:30	Coffee Break
Session II: Tree Mining (Session chair: Richi Nayak)	
10:30 - 10:55	**Mining Closed and Maximal Frequent Induced Free Subtrees** Hitohiro Shiozaki, Tomonobu Ozaki, and Takenao Ohkawa
10:55 - 11:20	**Mining Frequent Induced Subtree Patterns with Subtree-Constraint** Lei Zou, Yansheng Lu, Huaming Zhang, Rong Hu, and Chong Zhou
11:20 - 11:45	**RAZOR: mining distance-constrained embedded subtrees** Henry Tan, Tharam Dillon, Fedja Hadzic, and Elizabeth Chang
11:45 - 12:10	**Reducing the Frequent Pattern Set** Ronnie Bathoorn, Arne Koopman, and Arno Siebes
12:10 - 12:35	**Extracting Variable Knowledge from Multiversioned XML Documents** Laura Irina Rusu, Wenny Rahayu, and David Taniar
12:35 - 14:00	Lunch Break
Session III: Information Extraction (Session chair: Yuefeng Li)	
14:00 - 14:25	**Automatic Keyword Extraction Using Linguistic Features** Xinghua Hu, Bin Wu, and Yi Zhang
14:25 - 14:50	**Unsupervised Learning of Tree Alignment Models for Information Extraction** Philip Zigoris and Damian Eads
14:50 - 15:15	**A Semi-Structured representation for Knowledge Discovering using Remote Sensing Images** Erick Lopez-Ornelas and Florence Sedes
15:15 - 15:40	**The Role of Domain Ontology in Text Mining Applications: The ADDMiner Project** Ana Cristina Garcia, Inhaúma Ferraz, and Fernando Pinto
15:40 - 16:05	**NameIt: Extraction of Product Names** Gerhard Friedrich and Kostyantyn Shchekotykhin
16:05 - 16:30	Coffee Break
Session IV: Knowledge Representation (Session chair: Yuefeng Li)	
16:30 - 16:55	**Enhancing Text Retrieval Performance using Conceptual Ontological Graph** Shady Shehata, Fakhri Karray, and Mohamed Kamel
16:55 - 17:20	**A New Algorithm for Mining Fuzzy Association Rules in the Large Databases Based on Ontology** Zahra Farzanyar
17:20 - 17:45	**Automatic Construction of N-ary Tree Based Taxonomies** Kunal Punera, Suju Rajan, and Joydeep Ghosh
17:45 - 18:10	**Concept-Aware Ranking: Teaching an Old Graph New Moves** Colin DeLong, Sandeep Mane, and Jaideep Srivastava
18:10 - 18:35	**Improving the Results and Performance of Clustering Bit-encoded XML Documents** Michal Kozielski

Program at a Glance (ICDM/WI/IAT'06 Main Conferences)

December 19, Tuesday							
Time	**Sessions**						
8:30-10:00	Welcome Speech (General Chairs: Benjamin Wah and Jiming Liu) - Room 401 Program Introduction (ICDM'06 PC Chair: Chris Clifton, WI-IAT'06 PC Chair: Toyoaki Nishida) Keynote **Service-Oriented Science: Scaling eScience Impact -** Speaker: Ian Foster (Chair: Jiming Liu)						
10:00-10:30	**Coffee Break**						
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**	**Room 405**	**Room 406**	**Room 407**	**Room 408**
10:30-12:00	Session A1 (ICDM) **Profiling** (Chair: Howard Hamilton)	Session A2 (ICDM) **Novel Problems** (Chair: Chris Ding)	Session A3 (ICDM) **Temporal Data Mining** (Chair: Chengqi Zhang)	Session A4 (WI) **Social Networks** (Chair: Javed I. Khan)	Session A5 (WI) **Semantic Web Service** (Chair: Naoki Fukuta)	Session A6 (IAT) **Autonomous Knowledge Agents** (Chair: Vladimir Gorodetsky)	Session A7 (IAT) **Empirical Aspects of Agents** (Chair: Joerg Denzinger)	Session A8 (WI/IAT Tutorial) **Towards Semantic Service-Oriented Systems on the Web** Sung-Kook Han and Dumitru Roman
12:00-13:30	**Lunch**						
13:30-15:30	Invited Talk (WI) **Two obvious intuitions: ontology-mapping needs background knowledge and approximation** Frank van Harmelen (Chair: Toyoaki Nishida) The WIC Feature Talk **Web Intelligence Research from Brain Informatics Perspective** Ning Zhong (Chair: Toyoaki Nishida)	Session B2 (ICDM) **Outliers** (Chair: Ramamohanarao Kotagiri)	Session B3 (ICDM) **Active/Semi-Supervised** (Chair: Aijun An)	Session B4 (ICDM) **Clustering** (Chair: David Wai-lok Cheung)	Session B5 (ICDM) **Graph and Spatial** (Chair: Takashi Washio)	Session B6 (IAT) **Autonomy-Oriented Computing and Agent Technology** (Chair: Tetsuo Kinoshita)	Session B7 (IAT) **Negotiation** (Chair: Tracy Mullen)	Session B8 (ICDM Tutorial) **Filtering of Multi-Lingual Terrorist Content with Graph-Theoretic Classification Tools** Mark Last
15:30-16:00	**Coffee Break**						
16:00-18:00	Session C1 (WI) **World Wide Wisdom Web and Social Interaction Paradigms** (Chair: Chengqi Zhang)	Session C2 (ICDM) **Streams** (Chair: Andrzej Skowron)	Session C3 (ICDM) **Text** (Chair: Nikos Mamoulis)	Session C4 (ICDM) **Scientific Data** (Chair: Francesco Bonchi)	Session C5 (WI) **Web Service Composition** (Chair: Dumitru Roman)	Session C6 (IAT) **Agent-based Distributed Systems** (Chair: Khaled Ragab)	Session C7 (IAT) **Conversational Agents and Information Agents** (Chair: Liming Chen)	Session C8 (ICDM Tutorial) **Data Mining for Social Network Analysis** Jaideep Srivastava, Nishith Pathak and Sandeep Mane
17:00-18:30	**ICDM-WI-IAT Industry/Demonstration Track -** Room 301						
18:00-18:45	**Golden Sponsor Seminar -** Rooms 306-308 **Data Mining Challenges in Online Advertisement** (Speaker: Zhaohui Tang)						
18:30-20:30	**Reception** - Room 301						

				December 20, Wednesday				
Time				**Sessions**				
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**	**Room 405**	**Room 406**	**Room 407**	**Room 408**
8:30-10:00	Session D1 (ICDM) ICDM Best Research Paper (Chair: Chris Clifton) Invited Talk **Exploratory Mining in Cube Space** Raghu Ramakrishnan (Chair: Chris Clifton)	Session D2 (WI) **Social Interaction Analysis** (Chair: Meng Chang Chen)	Session D3 (WI) **Knowledge Grids and Grid Intelligence** (Chair: Keitaro Naruse)	Session D4 (WI) **Intelligent E-Technology - 1** (Chair: Yoshiaki Yasumura)	Session D5 (WI) **Information Extraction and Concept Discovery** (Chair: Xiaohua Tony Hu)	Session D6 (IAT) **Distributed Problem Solving** (Chair: Joerg Denzinger)	Session D7 (IAT) **Autonomous Auctions** (Chair: Pericles A. Mitkas)	Session D8 (WI/IAT Tutorial) **Link Mining: Current State of the Art** Ronen Feldman
10:00-10:30				Coffee Break				
10:30-12:00	Session E1 (ICDM) **Anomaly** (Chair: Alex Tuzhilin)	Session E2 (ICDM) **Probabilistic methods** (Chair: Charles X. Ling)	Session E3 (ICDM) **Integration / Visualization** (Chair: Fabrice Guillet)	Session E4 (WI) **Web Mining** (Chair: Qiang Shen)	Session E5 (IAT) **Cognitive Models for Agent Systems** (Chair: Daniel Ramirez-Cano)	Session E6 (IAT) **Distributed Problem Solving and Multi-agent Organization** (Chair: Martin Purvis)		Session E8 (WI/IAT Tutorial) **Knowledge Extraction for Improving Agent Efficiency** Andreas L. Symeonidis and Pericles A. Mitkas
12:00-13:30				Lunch				
13:30-15:30	Invited Talk – 1 (IAT) **Approximate Reasoning in MAS: Rough Set Approach** Andrzej Skowron (Chair: Matthias Klusch) Invited Talk – 2 (IAT) **Engaging in a Conversation with Synthetic Agents along the Virtuality Continuum** Elisabeth André (Chair: Matthias Klusch)	Session F2 (ICDM) **Clustering** (Chair: Christoph F. Eick)	Session F3 (ICDM) **Performance** (Chair: Sanjay Chawla)	Session F4 (ICDM) **Potpourri** (Chair: Kenichi Yoshida)	Session F5 (ICDM) **Information Retrieval** (Chair: Tony Hu)	Session F6 (WI) **Web Information Search and Retrieval** (Chair: Zhong Su)	Session F7 (WI) **Web Support Systems** (Chair: Cory Butz)	Session F8 (ICDM Tutorial) **Hands-On Time-Series Analysis with Matlab** Michalis Vlachos and Spiros Papadimitriou
15:30-16:00				Coffee Break				
16:00-17:30	Session G1 (ICDM) **Dimensionality** (Chair: Ming-Syan Chen)	Session G2 (ICDM) **Chem/Bio** (Chair: Naren Ramakrishnan)	Session G3 (ICDM) **Patterns and Itemsets** (Chair: Shusaku Tsumoto)	Session G4 (WI) **Clustering** (Chair: Michael Ng)	Session G5 (WI) **Intelligent E-Technology – 2** (Chair: Darina Dicheva)	Session G6 (IAT) **Agent Collaboration** (Chair: Pericles A. Mitkas)		Session G8 (ICDM Tutorial) **Hands-On Time-Series Analysis with Matlab** Michalis Vlachos and Spiros Papadimitriou
18:00-21:30	**Conference Cruise Banquet**							

	December 21 Thursday							
Time	**Sessions**							
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**	**Room 405**	**Room 406**	**Room 407**	**Room 408**
8:30-10:00	Session H1 (ICDM) ICDM Best Application Paper (Chair: Qiang Yang) Invited Talk **Data mining methods for modeling gene expression regulation and their applications** Weixiong Zhang (Chair: Qiang Yang)	Session H2 (WI) **Web Usage Mining** (Chair: Ruth Cobos Pérez)	Session H3 (WI) **Interoperability and Integration of Ontologies** (Chair: Juanzi Li)	Session H4 (WI) **Recommender Systems and Information Filtering** (Chair: Patricia Victor)	Session H5 (WI) **Intelligent Human-Web Interaction** (Chair: Debajyoti Mukhopadhyay)	Session H6 (IAT) **Building Multi-agent Systems** (Chair: Nicolas Sabouret)	Session H7 (IAT) **Agent-based Control** (Chair: Kasper Hallenborg)	Session H8 (WI) **Enhancing Web Services** (Chair: Xueli Yu)
10:00-10:30	Coffee Break							
10:30-12:00	Session I1 (ICDM) **Closed Itemsets** (Chair: Yuefeng Li)	Session I2 (ICDM) **Class Imbalance/Boosting** (Chair: Qiang Yang)	Session I3 (ICDM) **Applications** (Chair: Yong Shi)	Session I4 (WI) **Content Categorization** (Chair: Sheung-On Choy)	Session I5 (WI) **Ontology Management and Learning** (Chair: William Cheung)	Session I6 (IAT) **Agents under Uncertainty** (Chair: Chun-Nan Hsu)	Session I7 (IAT) **Autonomy-Oriented Computing** (Chair: Zhenhua Jiang)	Session I8 (ICDM Tutorial) **Predictive Learning on Data Streams** Haixun Wang and Ying Yang
12:00-13:30	**Business Meeting (Lunch provided) -** Room 401							
13:30-15:30	Session J1 (ICDM) **Social Networks** (Chair: Robert Gwadera)	Session J2 (ICDM) **Co-clustering** (Chair: Spiros Papadimitriou)	Session J3 (ICDM) **Ensembles** (Chair: Zhi-Hua Zhou)	Session J4 (WI) **Annotation, Discovery and Web Personalization** (Chair: Chao Wang)	Session J5 (WI) **Ontology Learning and Engineering** (Chair: Serge Garlatti)	Session J6 (IAT) **Agents in Competing Goals** (Chair: Peter Bodorik)	Session J7 (IAT) **Applications of Autonomy Oriented Computing** (Chair: Shell Ying Huang)	Session J8 (WI/IAT Tutorial) **Building an Intelligent Web: theory and practice** Pawan Lingras and Rajendra Akerkar
15:30-16:00	Coffee Break							
16:00-19:00	Session K1 (ICDM) Panel **Top 10 Algorithms in Data Mining** Xindong Wu and Vipin Kumar (Chair: Yong Shi)	Session K2 (WI) **Social Interaction, Knowledge Community, Agents and Wisdom** (Chair: Yuefeng Li)	Session K3 (WI) **Web Search Engine** (Chair: Kensuke Fukuda)	Session K4 (WI) **Web Mining and Web Support Systems** (Chair: Xiaoying Gao)	Session K5 (WI) **Ontology Engineering** (Chair: Peter Schonhofen)	Session K6 (IAT) **Building Distributed Systems** (Chair: Michael Winikoff)	Session K7 (IAT) **Applications of Intelligent Agent Technology** (Chair: Stephane Espie)	Session K8 (IAT) **Web Services and QoS** (Chair: William Cheung)

Final Program (ICDM/WI/IAT'06 Main Conferences)
Note: A regular paper is denoted by a '♦' symbol, and a short paper is denoted by a '●' symbol.

December 19, Tuesday			
Time	**Sessions**		
8:30-10:00 (30)	Welcome Speech (General Chairs: Benjamin Wah and Jiming Liu) - Room 401 Program Introduction (ICDM'06 PC Chair: Chris Clifton, WI-IAT'06 PC Chair: Toyoaki Nishida) Keynote **Service-Oriented Science: Scaling eScience Impact** - Speaker: Ian Foster (Chair: Jiming Liu)		
10:00-10:30	**Coffee Break**		
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**

	Room 401	Room 402	Room 403	Room 404
	Session A1 (ICDM) **Profiling** (Chair: Howard Hamilton)	Session A2 (ICDM) **Novel Problems** (Chair: Chris Ding)	Session A3 (ICDM) **Temporal Data Mining** (Chair: Chengqi Zhang)	Session A4 (WI) **Social Networks** (Chair: Javed I. Khan)
10:30-12:00 (90)	Regular ♦ *Improving Personalization Solutions Through Optimal Segmentation of Customer Bases* Tianyi Jiang and Alexander Tuzhilin ♦ *Personalization in Context: Does Context Matter When Building Personalized Customer Models?* Michele Gorgoglione, Cosimo Palmisano, and Alex Tuzhilin, Short: ● *Mining Latent Associations of Objects Using a Typed Mixture Model --A case study on expert/expertise mining* Shenghua Bao, Yunbo Cao, Hang Li, Bing Liu, and Yong Yu ● *Rule-Based Platform for Web Service User Profiling* Jianping Zhang and Manu Shukla ● *Gradual Cube: Customize Profile on Mobile OLAP* LI Jun, Zhou Haofeng, and Wei Wang	Regular ♦ *A Parameterized Probabilistic Model of Network Evolution for Supervised Link Prediction* Hisashi Kashima and Naoki Abe ♦ *Extracting Keyphrases using Semantic Networks Structure Analysis* Chong Huang, Yonghong Tian, Tiejun Huang, Charles Ling, and Zhi Zhou Short: ● *Decision Trees for Functional Variables* Suhrid Balakrishnan and David Madigan ● *Boosting the Feature Space: Text Classification for Unstructured Data on the Web* YANG SONG, Ding Zhou, Jian Huang, Isaac Councill, Hongyuan Zha, and C. Lee Giles ● *Object Identification with Constraints* Steffen Rendle and Lars Schmidt-Thieme	Regular ♦ *Local Correlation Tracking in Time Series* Spiros Papadimitriou, Jimeng Sun, and Philip Yu Short: ● *Mining Complex Time-Series Data by Learning the Temporal Structure Using Bayesian Techniques and Markovian Models* Yi Wang and Lizhu Zhou ● *Temporal Data Mining in Dynamic Feature Spaces* Brent Wenerstrom and Christophe Giraud-Carrier ● *Discovery of Collocation Episodes in Spatiotemporal Data* Huiping Cao, Nikos Mamoulis, and David W. Cheung ● *Cluster Analysis of Time-series Laboratory Test Data Based on the Trajectory Representation and Multiscale Comparison Techniques* Shoji Hirano and Shusaku Tsumoto ● *Fast Relevance Discovery in Time Series* Chang-shing Perng, Haixun Wang, and Sheng Ma	Regular: ♦ *Mining and Visualizing the Evolution of Subgroups in Social Networks* Tanja Falkowski, Jörg Bartelheimer, and Myra Spiliopoulou ♦ *Different Aspects of Social Network Analysis* Mohsen Jamali and Hassan Abolhassani ♦ *Learning Social Networks from Web Documents Using Support Vector Classifiers* Masoud Makrehchi and Mohamed Kamel Short: ● *Relationship Algebra for Computing in Social Networks and Social Network Based Applications* Javed I. Khan and Sajid Shaikh ● *Perspective of Applying the Global E-mail Network* Wenbin Li, Ning Zhong, Jiming Liu, Yiyu Yao, and Chunnian Liu ● *WMR—A Graph-based Algorithm for Friend Recommendation* Shuchuan Lo and Chingching Lin
12:00-13:30 (90)	**Lunch**			
13:30-15:30 (120)	Invited Talk (WI) **Two obvious intuitions: ontology-mapping needs background knowledge and approximation** Frank van Harmelen (Chair: Toyoaki Nishida) The WIC Feature Talk (WI) **Web Intelligence Research from Brain Informatics Perspective** Ning Zhong (Chair: Toyoaki Nishida)	Session B2 (ICDM) **Outliers** (Chair: Ramamohanarao Kotagiri) Regular ♦ *Finding Unusual Shapes* Li Wei and Eamonn Keogh ♦ *An information theoretic approach to detection of minority subsets in database* Shin Ando and Einoshin Suzuki ♦ *A Novel Method for Detecting Outlying Subspaces in High-dimensional Databases Using Genetic Algorithm* Ji Zhang ♦ *Converting Output Scores from Outlier Detection Algorithms into Probability Estimates* Jing Gao and Pang-Ning Tan ♦ *The PDD Framework for Detecting Categories of Peculiar Data* Mahesh Shrestha, Howard Hamilton, Y. Y. Yao, Ken Konkel, and Liqiang Geng	Session B3 (ICDM) **Active/Semi-Supervised** (Chair: Aijun An) Regular ♦ *Active Learning to Maximize Area Under the ROC Curve* Matt Culver, Kun Deng, and Stephen Scott ♦ *Hierarchical Classification by Expected Utility Maximization* Korinna Bade, Eyke Hüllermeier, and Andreas Nürnberger ♦ *Lazy Associative Classification* Adriano Veloso, Wagner Meira Jr., and Mohammed Zaki ♦ *Learning to Use a Learned Model: A Two-Stage Approach to Classification* Luiza Antonie, Osmar Zaiane, and Robert Holte Short: ● *Semi-Supervised Kernel Regression* Meng Wang, Xian-Sheng Hua, Yan Song, Li-Rong Dai, and Hong-Jiang Zhang ● *Solution Path for Semi-Supervised*	Session B4 (ICDM) **Clustering** (Chair: David Wai-lok Cheung) Regular: ♦ *The Relationships Among Various Nonnegative Matrix Factorization Methods for Clustering* Tao Li, Chris Ding, and Shenghuo Zhu ♦ *COALA : A Novel Approach for the Extraction of an Alternate Clustering of High Quality and High Dissimilarity* Eric Kyoo Han Bae and James Bailey ♦ *P3C: A Robust Projected Clustering Algorithm* Gabriela Moise, Jorg Sander, and Martin Ester ♦ *Meta Clustering* Rich Caruana, Mohamed Elhawary, Nam Nguyen, and Casey Smith Short: ● *Improving Grouped-Entity Resolution using Quasi-Cliques* Byung-Won On, Ergin Elmacioglu,

December 19, Tuesday			
Time	**Sessions**		
8:30-10:00 (30)	Welcome Speech (General Chairs: Benjamin Wah and Jiming Liu) - Room 401 Program Introduction (ICDM'06 PC Chair: Chris Clifton, WI-IAT'06 PC Chair: Toyoaki Nishida) Keynote **Service-Oriented Science: Scaling eScience Impact** - Speaker: Ian Foster (Chair: Jiming Liu)		
10:00-10:30	**Coffee Break**		
Venue	**Room 405**	**Room 406**	**Room 407**	**Room 408**

Venue	**Room 405**	**Room 406**	**Room 407**	**Room 408**
10:30-12:00 (90)	Session A5 (WI) **Semantic Web Service** (Chair: Naoki Fukuta) Regular: ◆ *A Semantic Web Service Based Approach for Augmented Provenance* Liming Chen, Xueqiang Yang, and Feng Tao ◆ *Semantic Web Services Discovery Using Ontology-Based Rating Model* Natenapa Sriharee Short: ● *Web Services Description Ontology-based Service Discovery Model* Chuanchang Liu, Yong Peng, and Junliang Chen ● *Extending Semantic Web Service Description by Service Assumption* Zheng Lu, Shiyan Li, Aditya Ghose, and Peter Hyland ● *Relation-based Case Retrieval Approach for Web Services Selection* S.M.F.D Syed Mustapha ● *Web Service Discovery via Semantic Association Ranking and Hyperclique Pattern Discovery* Aabhas V. Paliwal, Nabil R. Adam, Hui Xiong, and Christof Bornhövd ● *Discovering Web Services Based on Functional Semantics* Lei Ye and Bin Zhang	Session A6 (IAT) **Autonomous Knowledge Agents** (Chair: Vladimir Gorodetsky) Regular: ◆ *Plans as Products of Learning* Samin Karim, Budhitama Subagdja, and Liz Sonenberg ◆ *Learning Dynamic Bayesian Networks Using Evolutionary Mcmc* Hao Wang, Kui Yu, and Hongliang Yao ◆ *Autonomous Mobile Programs* Xiao Yan Deng, Phil Trinder, and Greg Michaelson Short: ● *Distributed Default Logic for Multi Agent System* Dominik Ryzko and Henryk Rybinski ● *Multi-class Support Vector Machine Classification Algorithm under Triple Tree Model* Hong Jian and Chen Jirong ● *Sixth-Sense: Context Reasoning for Potential Objects Detection in Smart Sensor Rich Environment* Bin Guo, Satoru Satake, and Michita Imai	Session A7 (IAT) **Empirical Aspects of Agents** (Chair: Joerg Denzinger) Regular: ◆ *Representing Context for Multiagent Trust Modeling* Martin Rehak, Milos Gregor, Michal Pechoucek, and Jeffrey Bradshaw ◆ *Commercial Experience with Agent-Oriented Software Engineering* David Anthony Winscom Clarke ◆ *Empirical Analysis for Agent System Comprehension and Verification* Tibor Bosse, Dung N. Lam, and K. Suzanne Barber Short: ● *Mainstream Games in the Multi-Agent Classroom* Celso de Melo, Rui Prada, Guilherme Raimundo, Joana Paulo Pardal, Helena Sofia Pinto, and Ana Paiva ● *Qualitative Verification of Multi-Agents Reactive Decisional System using Business Process Modeling Notation* Mohammed Berrada, Buchaib Bounabat, and Mostafa Harti ● *A Test Suite for the Evaluation of Mobile Agent Platform Security* Axel Bürkle, Barbara Essendorfer, Alice Hertel, Wilmuth Müller, and Martin Wieser	Session A8 (WI/IAT Tutorial) **Towards Semantic Service-Oriented Systems on the Web** Sung-Kook Han and Dumitru Roman

12:00-13:30 (90)	**Lunch**			

Venue	**Room 405**	**Room 406**	**Room 407**	**Room 408**
13:30-15:30 (120)	Session B5 (ICDM) **Graph and Spatial** (Chair: Takashi Washio) Regular: ◆ *Mining for tree-query associations in a graph* Eveline Hoekx and Jan Van den Bussch ◆ *Mixed-Drove Spatio-Temporal Co-occurrence Pattern Mining: A Summary of Results* Mete Celik, Shashi Shekhar, James Rogers, James Shine, and Jin Yoo Short: ● *GraphRank: Statistical Modeling and Mining of Significant Subgraphs in the Feature Space* Huahai He and Ambuj Singh ● *Manifold Clustering of Shapes* Dragomir Yankov and Eamonn Keogh ● *Pattern Mining in Frequent Dynamic Subgraphs* Karsten M. Borgwardt, Hans-Peter Kriegel, and Peter Wackersreuther ● *Mining Generalized Graph Patterns based on User Examples* Pavel Dmitriev and Carl Lagoze ● *MARGIN: Maximal Frequent*	Session B6 (IAT) **Autonomy-Oriented Computing and Agent Technology** (Chair: Tetsuo Kinoshita) Regular: ◆ *A Recommender Agent for Software Libraries: An Evaluation of Memory-Based and Model-Based Collaborative Filtering* Frank McCarey, Mel O Cinneide, and Nicholas Kushmerick ◆ *Learning Non-Unanimous Ontology Concepts to Communicate with Groups of Agents* Mohsen Afsharchi, Behrouz Far, and Jörg Denzinger ◆ *Distributed Transport services Assignment and Integration in Agent-Based Architecture* Hayfa Zgaya and Slim Hammadi ◆ *Towards Agent-based Coalition Formation for Service Composition* Ingo Mueller, Ryszard Kowalczyk, and Peter Braun Short: ● *Planning through Integrating an Action Abstraction and a Plan Decomposition Hierarchy* Erin Walker and Christel Kemke	Session B7 (IAT) **Negotiation** (Chair: Tracy Mullen) Regular: ◆ *A Negotiation Framework for Collision Avoidance between Vessels* Hu Qinyou, Hu Qiaoer, and Chen Haishan ◆ *Comparing the Performance of MLP and RBF Neural Networks Employed by Negotiating Intelligent Agents* Ioannis Papaioannou, Ioanna Roussaki, and Miltiades Anagnostou ◆ *Evaluating Information Variation in Informed Agent Negotiation* Paul Bogg ◆ *A Negotiation Model for Ontology Mapping* Cassia Trojahn, Marcia Moraes, Paulo Quaresma, and Renata Vieira Short: ● *Towards Information and Goal Based Agent Negotiation* Paul Bogg ● *When BDI meets Argumentation: The Conceptual Ideal* Cheah Wai Shiang and Narayanan	Session B8 (ICDM Tutorial) **Filtering of Multi-Lingual Terrorist Content with Graph-Theoretic Classification Tools** Mark Last

December 19, Tuesday			
Time	**Sessions**		
			Classification with Manifold Regularization Gang Wang, Tao Chen, Dit-Yan Yeung, and Frederick H. Lochovsky	Dongwon Lee, Jaewoo Kang, and Jian Pei ●*Speedup Clustering with Hierarchical Ranking* Jianjun Zhou and Joerg Sander
15:30-16:00 (30)	**Coffee Break**		
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**
	Session C1 (WI) **World Wide Wisdom Web and Social Interaction Paradigms** (Chair: Chengqi Zhang)	Session C2 (ICDM) **Streams** (Chair: Andrzej Skowron)	Session C3 (ICDM) **Text** (Chair: Nikos Mamoulis)	Session C4 (ICDM) **Scientific Data** (Chair: Francesco Bonchi)
16:00-18:00 (120)	Regular: ◆ *Generating Concept Ontologies Through Text Mining* Lipika Dey, Ashish Chandra Rastogi, and Sachin Kumar ◆ *ESMAP: A Multi-Agent Platform for Extending a Knowledge Management System* Graciela Garcia and Ruth Cobos ◆ *Lognormal Distribution of BBS Articles and its Social and Generative Mechanism* Keitaro Naruse and Masao Kub Short: ●*Enhancing Software Engineering Project Information through Software Engineering Ontology Instantiations* P. Wongthongtham, E. Chang, and T. S. Dillon ●*Origin-destination Network Tomography Using Bayesian Inversion Approach* Jianzhong Zhang ●*Knowledge Spaces: Dynamic Collaboration in a New Era of Ideas and Innovation* Stephen Quinton and Paul Houghton	Regular: ◆ *Anytime Classification Using the Nearest Neighbor Algorithm with Applications to Stream Mining* Ken Ueno, Xiaopeng Xi, Eamonn Keogh, and Dah-Jye Lee ◆ *STAGGER: Periodicity Mining of Data Streams using Expanding Sliding Windows* Mohamed Elfeky, Walid Aref, and Ahmed Elmagarmid ◆ *Finding 'Who is talking to whom' in VoIP Networks via Progressive Stream Clustering* Olivier Verscheure, Michail Vlachos, Aris Anagnostopoulos, Pascal Frossard, Eric Bouillet, and Philip S Yu Short: ●*DSTree: A Tree Structure for Efficient Mining of Frequent Patterns from Data Streams* Carson K. Leung and Quamrul I. Khan ●*Window-based Tensor Analysis on High-dimensional and Multi-aspect Streams* Jimeng Sun, Spiros Papadimitriou, and Philip Yu ●*Resource Management for Networked Classifiers in Distributed Stream Mining Systems* Deepak Turaga, Olivier Verscheure, Upendra Chaudhari, and Lisa Amini	Regular: ◆ *Subjectivity Categorization in Weblog Space using Part-Of-Speech based Smoothing* Shen Huang, Jiao-Tao Sun, Xuanhui Wang, Hua-Jun Zeng, and Zheng Chen Short: ●*Diverse Topic Phrase Extraction through Latent Semantic Analysis* Jilin Chen, Benyu Zhang, Jun Yan, and Qiang Yang ●*High Quality, Efficient Hierarchical Document Clustering using Closed Interesting Itemsets* Hassan Malik and John Kender ●*Adding Semantics to Email Clustering* Hua Li, Dou Shen, Benyu Zhang, Zheng Chen, and Qiang Yang ●*Enhancing Text Clustering using Concept-based Mining Model* Shady Shehata, Fakhri Karray, and Mohamed Kamel, ●*Semantic Smoothing for Model-based Document Clustering* Xiaodan Zhang, Xiaohua Zhou, and Xiaohua Hu, ●*A Balanced Ensemble Approach to Weighting Classifiers for Text Classification* Gabriel Pui Cheong Fung, Jeffrey Xu Yu, Haixun Wang, Huan Liu, and David W Cheung ●*NewsCATS: A News Categorization And Trading System* Marc-André Mittermayer and Gerhard F. Knolmayer ●*Semantic Kernels for Text Classification based on Topological Measures of Feature Similarity* Stephan Bloehdorn, Roberto Basili, Marco Cammisa, and Alessandro Moschitti	Regular: ◆ *Regularized Least Absolute Deviations Regression, an Efficient Algorithm for Parameter Tuning and its Application in Image Reconstruction* Li Wang, Ji Zhu, and Michael Gordon ◆ *How Bayesians Debug* Chao Liu, Zeng Lian, and Jiawei Han ◆ *Forecasting Skewed Biased Stochastic Ozone Days* Xiaojing Yuan, Kun Zhang, Wei Fan, Ian Davidson, and Xiangshang Li Short: ●*TRIAS - An Algorithm for Mining Iceberg Tri-Lattices* Robert Jäschke, Andreas Hotho, Christoph Schmitz, Bernhard Ganter, and Gerd Stumme ●*On Trajectory Representation and Analysis for Scientific Data* Sameep Mehta, Raghu Machiraju, and Srinivasan Parthasarathy ●*Belief Propagation in Large, Highly Connected Graphs for 3D Part-Based Object Recognition* Frank DiMaio and Jude Shavlik
17:00-18:30 (90)	**ICDM-WI-IAT Industry/Demonstration Track (Refer to Page: 62)** - Room 301			
18:00-18:45 (45)	**Golden Sponsor Seminar -** Rooms 306-308 **Data Mining Challenges in Online Advertisement** (Speaker: Zhaohui Tang)			
18:30-20:30 (120)	**Reception -** Room 301			

Time	Sessions
December 19, Tuesday	

Time	Sessions		
	Subgraph Mining Lini Thomas, Satyanarayana R Valluri, and Kamalakar Karlapalem ● *Mining Maximal Generalized Frequent Geographic Patterns with Knowledge Constraints* Vania Bogorny, Joao Valiati, Sandro Camargo, Paulo Engel, Bart Kuijpers, and Luis Otavio Alvares	● *A Bounded Q-decomposition RTDP Approach to Resource Allocation* Pierrick Plamondon and Brahim Chaib-draa ● *Intelligent Tutoring Systems using Reinforcement Learning to teach Autistic Students* Sreenivasa Sarma and Ravindran B ● *Tagging and referrals in the EVM architecture* Mariusz Nowostawski & Martin Purvis	Kulathuramaiyer ● *Autonomous Order Monitoring by Software Agents* Freimut Bodendorf and Robert Zimmermann
15:30-16:00 (30)	**Coffee Break**		

Venue	Room 405	Room 406	Room 407	Room 408
	Session C5 (WI) **Web Service Composition** (Chair: Dumitru Roman)	Session C6 (IAT) **Agent-based Distributed Systems** (Chair: Khaled Ragab)	Session C7 (IAT) **Conversational Agents and Information Agents** (Chair: Liming Chen)	
16:00-18:00 (120)	Regular: ◆ *Efficient Service Composition Using Zero-Suppressed Reduced Ordered Binary Decision Diagrams* Walter Binder, Ion Constantinescu, and Boi Faltings ◆ *Jenova: New Framework for Web Service Transactions* Heqing Guan, Shuchao Wan, and Jun Wei Short: ● *A Component-based Approach to Automated Web Service Composition* Quoc Bao Vo and Lin Padgham ● *A Dynamic Semantic Association-Based Web Service Composition Method* Meng Xu, Junliang Chen, Yong Peng, Xiang Mei, and Chuanchang Liu ● *Qos-context control for Dynamic Web Services Composition* Xinwei Xu ● *An Unabridged Method Concerning Capability Matchmaking of Web Services* Hai Wang, Zengzhi Li, and Lin Fan ● *Expressing Service and Query Behavior using π-calculus for Matchmaking* Li Kuang, Ying Li, Shuiguang Deng, Jian Wu, and Zhaohui Wu ● *A Similarity Measure for OWL-S Annotated Web Services* Yasser Ganisaffar, Hassan Abolhassanii, Mahmood Neshati, and Mohsen Jamali ● *A Contextual Based Semantic Modeling Approach to Task-Service Formation in Virtual Organization* William Song and Mingquan Zhou ● *An SOA-based Software Deployment Management System* Ing-Yi Chen and Chao-Chi Huan	Regular: ◆ *A Design and Operation Model for Agent-based Flexible Distributed System* Akiko Takahashi and Tetsuo Kinoshita ◆ *Dependency of Network Structures in Agent Selection and Deployment* Kensuke Fukuda, Toshio Hirotsu, Satoshi Kurihara, Shin-ya Sato, Osamu Akashi, and Toshiharu Sugawara ◆ *Properties of Capability Based Agent Organization Transition* Eric Matson and Raj Bhatnagar ◆ *Evaluating Different Genetic Operators in the Testing for Unwanted Emergent Behavior using Evolutionary Learning of Behavior* Jörg Denzinger and Jordan Kidney ◆ *Developing Multi-Agent Systems with Dynamic Binding Mechanism* Xinjun Mao and Jianming Zhao Short: ● *Mechanisms for Cooperative Behaviour in Agent Institutions* Martin Purvis, Sharmila Savraimuthu, Marcos De Oliveira, and Maryam Purvis ● *A Hierarchical Development Architecture for Customizing AO Methodologies* Zeng Zhifeng and Xue Xiao	Regular: ◆ *Generic Command Interpretation Algorithms for Conversational Agents* Laurent Mazuel and Nicolas Sabouret ◆ *Storytelling Ontology Model using RST* Arturo Nakasone and Mitsuru Ishizuka ◆ *Autonomous agent as helper – Helpful or Annoying?* Paul Rudman and Mary Zajicek Short: ● *How am I? - Guidelines for Animated Interface Agents Evaluation* Marcia Moraes and Milene Silveira ● *Knowledge-based Support of Network Management Tasks using Active Information Resource* Susumu Konno, Yukio Iwaya, Toru Abe, and Tetsuo Kinoshita ● *Role of Mobile Agents in Distributed Data Mining* Umakant Kulkarni, Kiran Tangod, Srinivas Mangalwede, and Anil Yardi ● *Carcara: A Multi-agent System for Web Mining using Adjustable User Profile and Dynamic grouping* Anne Canuto and Manuel Gomes Junior	Session C8 (ICDM Tutorial) **Data Mining for Social Network Analysis** Jaideep Srivastava, Nishith Pathak and Sandeep Mane
17:00-18:30 (90)	**ICDM-WI-IAT Industry/Demonstration Track (Refer to Page: 62)** - Room 301			
18:00-18:45 (45)	**Golden Sponsor Seminar -** Rooms 306-308 **Data Mining Challenges in Online Advertisement** (Speaker: Zhaohui Tang)			
18:30-20:30 (120)	**Reception -** Room 301			

December 20, Wednesday			
Time	**Sessions**		
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**

	Room 401	Room 402	Room 403	Room 404
8:30-10:00 (90)	Session D1 (ICDM) ICDM Best Research Paper (Chair: Chris Clifton) Invited Talk **Exploratory Mining in Cube Space** Raghu Ramakrishnan (Chair: Chris Clifton)	Session D2 (WI) **Social Interaction Analysis** (Chair: Meng Chang Chen) Regular: ◆ *Temporal Analysis of the Wikigraph* Luciana S. Buriol, Carlos Castillo, Debora Donato, Stefano Leonardi, and Stefano Millozzi ◆ *Measuring Qualities of Articles Contributed by Online Communities* Ee-Peng Lim, Ba-Quy Vuong, Hady Wirawan Lauw, and Aixin Sun ◆ *Understanding Leadership Behavior in Human Influence Network* Naohiro Matsumura and Yoshihiro Sasaki ◆ *Labeled Link Analysis for Extracting User Characteristics in E-commerce Activity Network* Yumi Kawachi, Shinichiro Yoshii, and Masashi Furukawa Short: ● *A Generic WebDAV-based Document Repository Manager for Collaborative Systems* Haifeng Shen, Chengzheng Sun, Suiping Zhou, and Zaw Wai Phyo	Session D3 (WI) **Knowledge Grids and Grid Intelligence** (Chair: Keitaro Naruse) Regular: ◆ *Dynamic Access Control Prediction for Ordered Service Sequence in Grid Environment* Chuanjiang Yi, Hai Jin, and Chengwei Wang ◆ *Fast Discovery of Interesting Collections of Web Services* Zhou Zhu and James Bailey Short: ● *Semantic-Based Workflow Composition for Video Processing in the Grid* Gayathri Nadarajan, Yun-Heh Chen-Burger, and James Malone ● *Grid Security Framework for Managing the Certificate* May Phyo Oo, Nilar Thein, and ThinnThu Naing ● *Semantic Discovery of Grid Services Using Functionality based Matchmaking Algorithm* S. Thamarai Selvi, R.A. Balachandar, K. Vijayakumar, N. Mohanram, M. Vandana, and Rajagopalan Raman ● *Intelligent Transportation Information Sharing and Service Integration in Semantic Grid Environment* Wei Shi, Jian Wu, Ying Li, and Li Kuang ● *Developing Mining-grid Centric E-Finance Portal* Jia Hu and Ning Zhong	Session D4 (WI) **Intelligent E-Technology - 1** (Chair: Yoshiaki Yasumura) Regular: ◆ *View-Based Semantic Search and Browsing* Christo Dichev and Darina Dicheva ◆ *Public Authentication of 3D Mesh Models* Hao-tian Wu and Yiu-ming Cheung Short: ● *Factor Analysis to Support the Visualization and Interpretation of Clusters of Portal Users* Carmen Rebelo, Pedro Quelhas Brito, Carlos Soares, and Alípio Jorge ● *Distributed Storage of High-Volume Environmental Simulation Data: Mantle Modelling* Martin Wolstencroft, Omer F Rana, and J Huw Davies ● *A Uniform Product Knowledge Representation Semantic Model* Chengfeng Jian, Meiyu Zhang, and Cunju Lu ● *The Role of Different Thesauri Terms and Captions in Automated Subject Classification* Koraljka Golub ● *Towards Fast Digestion of IMF Staff Reports with Automated Text Summarization Systems* Shuhua Liu and Johnny Lindroos
10:00-10:30 (30)	**Coffee Break**			
10:30-12:00 (90)	Session E1 (ICDM) **Anomaly** (Chair: Alex Tuzhilin) Regular: ◆ *Large Scale Detection of Irregularities in Accounting Data* Stephen Bay, Krishna Kumaraswamy, Markus Anderle, Rohit Kumar, and David Steier ◆ *An Efficient Reference-based Approach to Outlier Detection in Large Dataset* Yaling Pei, Osmar Zaiane, and Yong Gao Short: ● *Entropy-based Concept Shift Detection* Peter Vorburger and Abraham Bernstein ● *Detection of Interdomain Routing Anomalies Based on Higher-Order Path Analysis* Murat Ganiz, William Pottenger, Sudhan Kanitkar, and Mooi Chuah ● *Detecting Web Spam from*	Session E2 (ICDM) **Probabilistic methods** (Chair: Charles X. Ling) Regular: ◆ *A Novel Scalable Algorithm for Supervised Subspace Learning* Jun yan, ning liu, Benyu Zhang, Qiang Yang, and Zheng Chen ◆ *Fast Random Walk with Restart and Its Applications* Hanghang Tong, Christos Faloutsos, and Jia-Yu Pan Short: ● *Cluster Based Core Vector Machine* Asharaf S, Narasimha Murty Musti, and Shirish Krishnaj Shevade ● *Probabilistic segmentation and analysis of horizontal cells* Vebjorn Ljosa and Ambuj K. Singh ● *Minimum Enclosing Spheres Formulations for Support Vector Ordinal Regression* S K Shevade and Wei Chu ● *Probabilistic Enhanced Mapping*	Session E3 (ICDM) **Integration / Visualization** (Chair: Fabrice Guillet) Regular: ◆ *Rapid Identification of Column Heterogeneity* Bing Tian Dai, Nick Koudas, Beng Chin Ooi, Divesh Srivastava, and Suresh Venkatasubramanian ◆ *Adaptive Blocking: Learning to Scale Up Record Linkage* Mikhail Bilenko, Beena Kamath, and Raymond J. Mooney ◆ *Entity Resolution with Markov Logic* Parag Singla and Pedro Domingos Short: ● *Intelligent Icons: Integrating Lite-Weight Data Mining and Visualization into GUI Operating Systems* Eamonn Keogh, Li Wei, Xiaopeng Xi, Stefano Lonardi, Jin Shieh, and Scott Sirowy ● *Opening the Black Box of Feature*	Session E4 (WI) **Web Mining** (Chair: Qiang Shen) Regular: ◆ *Rough Association Rule Mining in Text Documents for Acquiring Web User Information Needs* Yuefeng Li and Ning Zhong ◆ *Exploring Local Community Structures in Large Networks* Feng Luo, James Z. Wang, and Eric Promislow ◆ *Making Topic-Specific Report and Multimodal Presentation Automatically by Mining the Web Resources* Shaikh Mostafa Al Masum and Mitsuru Ishizuka Short: ● *The Mining and Extraction of Primary Informative Blocks and Data Objects from Systematic Web Pages* Yi-Feng Tseng and Hung-Yu Kao ● *Financial News Mining:*

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Time		**Sessions**		
Venue	**Room 405**	**Room 406**	**Room 407**	**Room 408**
8:30-10:00 (90)	Session D5 (WI) **Information Extraction and Concept Discovery** (Chair: Xiaohua Tony Hu) Regular: ◆ *Interactive Tuples Extraction from Semi-Structured Data* Rémi Gilleron, Patrick Marty, Marc Tommasi, and Fabien Torre ◆ *A Lazy Approach for Category Model Construction using Training Texts* Saravadee Sae Tan, Gan Keng Hoon, and Tang Enya Kong ◆ *Using Cross-Document Random Walks for Topic-Focused Multi-Document Summarization* Xiaojun Wan, Jianwu Yang, and Jianguo Xiao Short: ● *Investigating Semantic Measures in XML Clustering* Richi Nayak ● *An Ant Colony Optimization Algorithm for Learning Classification Rules* Junzhong Ji, Ning Zhang, Chunnian Liu, and Ning Zhong ● *Automatic Discovery of Concepts from Text* Ong Siou Chin, Narayanan Kulathuramaiyer, and Alvin W. Yeo	Session D6 (IAT) **Distributed Problem Solving** (Chair: Joerg Denzinger) Regular: ◆ *A Multi-stage Graph Decomposition Algorithm for Distributed Constraint Optimisation* Terence Law and Adrian Pearce ◆ *A Technique for Large Automated Mechanism Design Problems* Frederick Asselin, Brigitte Jaumard, and Antoine Nongaillard ◆ *Framework for Modeling Reordering Heuristics for Asynchronous Backtracking* Marius Silaghi ◆ *Towards High-Level Programming for Distributed Problem Solving* Ryan Kelly and Adrian Pearce Short: ● *Multi-robot Path Planning Based on Cooperative Co-evolution and Adaptive CGA* Jinyin Chen, Dongyong Yang, Naofumi Matsumoto, and Yuzo Yamane	Session D7 (IAT) **Autonomous Auctions** (Chair: Pericles A. Mitkas) Regular: ◆ *Realising Common Knowledge Assumptions in Agent Auctions* Frank Guerin and Emmanuel Tadjouddine ◆ *An Agent-based Mechanism for Autonomous Multiple Criteria Auctions* Sylvie Kornman, Marie-Jo Bellosta, and Daniel Vanderpooten ◆ *An Approximate Algorithm for Resource Allocation using Combinatorial Auctions* Viswanath Avasarala, Himanshu Polavarapu, and Tracy Mullen Short: ● *Towards Better Approximation of Winner Determination for Combinatorial Auctions with Large Number of Bids* Naoki Fukuta and Takayuki Ito	Session D8 (WI/IAT Tutorial) **Link Mining: Current State of the Art** Ronen Feldman
10:00-10:30 (30)	**Coffee Break**			
10:30-12:00 (90)	Session E5 (IAT) **Cognitive Models for Agent Systems** (Chair: Daniel Ramirez-Cano) Regular: ◆ *The Role of Problem Classification in Online Meta-Cognition* George Alexander and Anita Raja ◆ *Specification and Verification of Dynamics in Cognitive Agent Models* Tibor Bosse, Catholijn M. Jonker, Lourens van der Meij, Alexei Sharpanskykh, and Jan Treur ◆ *A Cognitive Model for Visual Attention and its Application* Tibor Bosse, Peter-Paul van Maanen, and Jan Treur Short: ● *Structure Learning of a Behavior Network for Context Dependent Adaptability* Xiaolin Hu and Ou Li ● *Boosting-based Learning Agents for Experience Classification* Po-Chun Chen, Xiaocong Fan, Shizhuo Zhu, and John Yen	Session E6 (IAT) **Distributed Problem Solving and Multi-agent Organization** (Chair: Martin Purvis) Regular: ◆ *Using Prior Knowledge to Improve Distributed Hill Climbing* Roger Mailler ◆ *An Adaptive Multi-Agent Organization Model Based on Dynamic Role Allocation* Mark Hoogendoorn and Jan Treur ◆ *Heuristics for Dealing with a Shrinking Pie in Agent Coalition Formation* Kevin Westwood and Vicki Allan ◆ *Dynamic Multi-Linked Negotiations in Multi-Echelon Production Scheduling Networks* Hoong Chuin Lau, Guan Li Soh, and Wee Chong Wan Short: ● *A Multi-agent Based Method for Reconstructing Buckets in Encrypted Databases* Yi Tang, Jun Yun, and Quan Zhou		Session E8 (WI/IAT Tutorial) **Knowledge Extraction for Improving Agent Efficiency** Andreas L. Symeonidis and Pericles A. Mitkas

December 20, Wednesday			
Time	**Sessions**		
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**

	Room 401	Room 402	Room 403	Room 404
	Temporal Statistics of Websites Guoyang Shen, Bin Gao, Tie-Yan Liu, Guang Feng, Shiji Song, and Hang Li ● *A Feature Selection and Evaluation Scheme for Computer Virus Detection* Olivier Henchiri and Nathalie Japkowicz	*with the Generative Tabular Model* Rodolphe Priam and Mohamed Nadif	*Extraction: Incorporating Visualization into High-Dimensional Data Mining Processes* jianting zhang and Le Gruenwald	*Monitoring Continuous Streams of Text* Jon Espen Ingvaldsen, Jon Atle Gulla, Tarjei Laegreid, and Paul Christian Sandal
12:00-13:30 (90)	Lunch			
13:30-15:30 (120)	Invited Talk – 1 (IAT) **Approximate Reasoning in MAS: Rough Set Approach** Andrzej Skowron (Chair: Matthias Klusch) Invited Talk – 2 (IAT) **Engaging in a Conversation with Synthetic Agents along the Virtuality Continuum** Elisabeth André (Chair: Matthias Klusch)	Session F2 (ICDM) **Clustering** (Chair: Christoph F. Eick) Regular: ◆ *Stability Region based Expectation Maximization for Model-based Clustering* Chandan Reddy, Hsiao-Dong Chiang, and Bala Rajaratnam ◆ *Efficient Clustering of Uncertain Data* Wang Kay Ngai, Ben Kao, Chun Kit Chui, Reynold Cheng, Michael Chau, and Yuk Lap Yip ◆ *On the Lower Bound of Local Optimums in K-Means Algorithm* Zhenjie Zhang, Bing Tian Dai, and Anthony K.H. Tung ◆ *Bregman Bubble Clustering: A Robust, Scalable Framework for Locating Multiple, Dense Regions in Data* Gunjan Gupta and Joydeep Ghosh Short: ● *COSMIC: Conceptually Specified Multi-Instance Clusters* Matthias Schubert, Alexey Pryakhin, Arthur Zimek, and Hans-Peter Kriegel ● *A Simple Yet Effective Data Clustering Algorithm* Soujanya Vadapalli, Satyanarayana Valluri, and Kamalakar Karlapalem	Session F3 (ICDM) **Performance** (Chair: Sanjay Chawla) Regular: ◆ *LOCI: Load Shedding through Class-Preserving Data Acquisition* Peng Wang, Haixun Wang, Wei Wang, Baile Shi, and Philip S. Yu ◆ *Parallel Graph Mining on CMP Architectures* Gregory Buehrer and Srinivasan Parthasarathy ◆ *Accelerating Newton Optimization for Log-Linear Models through Feature Redundancy* Arpit Mathur and Soumen Chakrabarti ◆ *Global and Componentwise Extrapolation for Accelerating Data Mining from Large Incomplete Data Set with the EM Algorithm* Chun-Nan Hsu, Han-Shen Huang, and Bo-Hou Yang Short: ● *Distances and (Indefinite) Kernels for Sets of Objects* Adam Woznica, Alexandros Kalousis, and Melanie Hilario ● *Fast On-line Kernel Learning for Trees* Fabio Aiolli, Giovanni Da San Martino, Alessandro Sperduti, and Alessandro Moschitti	Session F4 (ICDM) **Potpourri** (Chair: Kenichi Yoshida) Regular: ◆ *Incremental Mining of Frequent Query Patterns from XML Queries for Caching* Guoliang Li, Jianhua Feng, Jianyong Wang, Yong Zhang, and Lizhu Zhou ◆ *Secure Distributed k-Anonymous Pattern Mining* Wei Jiang and Maurizio Atzori ◆ *Optimal Segmentation using Tree Models* Robert Gwadera, Aristides Gionis, and Heikki Mannila Short: ● *Semantic Overall and Partial Similarity of Temporal Query Logs for Similar Query Suggestion* ning liu, Jun yan, Benyu Zhang, Weiguo Fan, and Zheng Chen ● *bitSPADE: A Lattice-Based Sequential Pattern Mining Algorithm Using Bitmap Representation* Sujeevan Aseervatham, Aomar Osmani, and Emmanuel Viennet ● *Comparisons of K-Anonymization and Randomization Schemes Under Linking Attacks* Zhouxuan Teng and Wenliang Du
15:30-16:00 (30)	Coffee Break			

December 20, Wednesday			
Time	**Sessions**		
Venue	**Room 405**	**Room 406**	**Room 407**	**Room 408**

Time	Room 405	Room 406	Room 407	Room 408
	●*A Multi-Agent Approach to Social Human Behaviour in Children* Frodi Hammer, Alireza Derakhshan, Yves Demazeau, and Henrik Hautop Lund			
12:00-13:30 (90)	**Lunch**			
13:30-15:30 (120)	Session F5 (ICDM) **Information Retrieval** (Chair: Tony Hu) Regular: ◆*Integrating Features from Different Sources for Music Information Retrieval* Tao Li and Mitsunori Ogihara ◆*Applying Data Mining to Pseudo-Relevance Feedback for High Performance Text Retrieval* Xiangji (Jimmy) Huang, YanRui Huang, Miao Wen, Aijun An, Yang Liu, and Josiah Poon ◆*An Interactive Semantic Video Mining and Retrieval Platform - Application in Transportation Surveillance Video for Incident Detection* Xin Chen and Chengcui Zhang Short: ●*Query-Sensitive Similarity Measure for Content-Based Image Retrieval* Zhi-Hua Zhou and Hong-Bin Dai ●*Deploying Approaches for Pattern Refinement in Text Mining* Sheng-Tang Wu, Yuefeng Li, and Yue Xu ●*High-Performance Unsupervised Relation Extraction from Large Corpora* Benjamin Rosenfeld and Ronen Feldman ●*Plagiarism Detection in arXiv* Daria Sorokina, Johannes Gehrke, Simeon Warner, and Paul Ginsparg	Session F6 (WI) **Web Information Search and Retrieval** (Chair: Zhong Su) Regular: ◆*A Generalized Hidden Markov Model Approach for Web Information Extraction* Ping Zhong and Jinlin Chen ◆*PageSim: A Novel Link-based Similarity Measure for the World Wide Web* Zhenjiang Lin, Irwin King, and Michael R. Lyu Short: ●*A Multi-Agent Simulation Framework for Spiders Traversing the Semantic Web* Christos Dimou, Alexandros Batzios, Andreas L. Symeonidis, and Pericles Mitkas ●*Binary Search Join between an IR system and an RDBMS* Ernest Dawei Wang ●*A Method for Focused Crawling Using Combination of Link Structure and Content Similarity* Mohsen Jamali, Hassan Sayyadi, Babak Bagheri Hariri, and Hassan Abolhassani ●*LSCrawler: A Framework for an Enhanced Focused Web Crawler based on Link Semantics* M Yuvarani, N.Ch.S.N. Iyengar, and A Kannan ●*Board Forum Crawling A Web Crawling Method for Web Forum* Yan Guo ●*The Impact of the Web Prefetching Architecture on the Limits of Reducing User's Perceived Latency* Josep Domenech, Julio Sahuquillo, José A. Gil, and Ana Pont ●*An Adaptive Scoring Method for Block Importance Learning* Yan Liu, Qiang Wang, QingXian Wang, Yao Liu, and Liang Wei ●*Hybrid System Based on Intelligent Neighbor Formation Algorithm* Saranya Maneeroj and Pattarasinee Bhattarakosol	Session F7 (WI) **Web Support Systems** (Chair: Cory Butz) Regular: ◆*Process-Recollective Refinding on the Web* Ippei Nishimoto and Masashi Todda ◆*Navigating Provenance Information for Distributed Healthcare Management* Vikas Deora, Arnaud Contes, Omer F. Rana, Shrija Rajbhandari, Ian Wootten, Kifor Tamas, and Laszlo Z. Varga ◆*A Comparative User Study of Web Search Interfaces: HotMap, Concept Highlighter, and Google* Orland Hoeber and Xue Dong Yang Short : ●*A Perception Based, Domain Specific Expert System for Question-Answering Support* Raheel Ahmad and Shahram Rahimi ●*Interdisciplinary Contents Management using 5W1H Interface for Metadata* Keiko Shimazu, Tatsuya Arisawa, and Isao Saito ●*An Efficient Incremental Algorithm for Frequent Itemsets Mining in Distorted Databases with Granular Computing* Congfu Xu and Jinlong Wang ●*Granular Web Shopping Experts* Ling Gu and Yan-Qing Zhang ●*On Textual Documents Classification using Fourier Domain Scoring* Michal Pryczek and Piotr Szczepaniak	Session F8 (ICDM Tutorial) **Hands-On Time-Series Analysis with Matlab** Michalis Vlachos and Spiros Papadimitriou
15:30-16:00 (30)	**Coffee Break**			

December 20, Wednesday			
Time	**Sessions**		
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**

Time	Room 401	Room 402	Room 403	Room 404
16:00-17:30 (90)	Session G1 (ICDM) **Dimensionality** (Chair: Ming-Syan Chen) Regular: ◆ *Discovering partial orders in binary data* Deepak Rajan and Philip Yu ◆ *Dimension Reduction for Supervised Ordering* Toshihiro Kamishima and Shotaro Akaho ◆ *What is the dimension of your binary data?* Nikolaj Tatti, Taneli Mielikainen, Aristedes Gionis, and Heikki Mannila Short: ● *Adaptive Kernel Principal Component Analysis with Unsupervised Learning of Kernels* Daoqiang Zhang, Zhi-Hua Zhou, and Songcan Chen ● *Linear and Non-Linear Dimensional Reduction via Class Representatives for Text Classification* Dimitrios Zeimpekis and Efstratios Gallopoulos	Session G2(ICDM) **Chem/Bio** (Chair: Naren Ramakrishnan) Regular: ◆ *On the Use of Structure and Sequence-based Features for Protein Classification and Retrieval* Keith Marsolo and Srinivasan Parthasarathy ◆ *Comparison of Descriptor Spaces for Chemical Compound Retrieval and Classification* Nikil Wale and George Karypis ◆ *Biclustering Protein Complex Interactions with a Biclique Finding Algorithm* Chris Ding, Ya Zhang, and Stephen Holbrook Short: ● *Automatic Single-Organ Segmentation in Computed Tomography Images* Ruchaneewan Susomboon, Daniela Raicu, Jacob Furst, and David Channin ● *Mining Correlation between Motifs and Gene Expression* Yi Lu, Shiyong Lu, Adrian Platts, and Stephen Krawetz	Session G3 (ICDM) **Patterns and Itemsets** (Chair: Shusaku Tsumoto) Regular: ◆ *Geometrically Inspired Itemset Mining* Florian Verhein and Sanjay Chawla ◆ *P3.1: Identifying Follow-Correlation Itemset-Pairs* Shichao Zhang Short: ● *A Framework for Regional Association Rule Mining in Spatial Datasets* Wei Ding, Christoph F. Eick, Jing Wang, and XiaoJing Yuan ● *Searching for Pattern Rules* Guichong Li and Howard Hamilton ● *Multi-Tier Granule Mining for Representations of Multidimensional Association Rules* Yuefeng Li, Wanzhong Yang, and Yue Xu	Session G4 (WI) **Clustering** (Chair: Michael Ng) Regular: ◆ *Personalized Hierarchical Clustering* Korinna Bade and Andreas Nürnberger ◆ *Improving Index Compression Using Cluster Information* Jinlin Chen, Ping Zhong, and Terry Cook ◆ *Query Directed Web Page Clustering* Daniel Crabtree, Peter Andreae, and Xiaoying Gao Short: ● *WISE: Hierarchical Soft Clustering of Web Page Search Results based on Web Content Mining Techniques* Ricardo Campos, Gaël Dias, and Célia Nunes ● *Finding Conceptual Document Clusters with Improved Top-N Formal Concept Search* Yoshiaki Okubo and Makoto Haraguchi ● *Data Extraction from Semi-structured Web Pages by Clustering* Le Phone Bao Vuong, Xiaoying Gao, and Mengjie Zhang
18:00-21:30 (210)	**Conference Cruise Banquet**			

	December 20, Wednesday			
Time	**Sessions**			
Venue	**Room 405**	**Room 406**	**Room 407**	**Room 408**
16:00-17:30 (90)	Session G5 (WI) **Intelligent E-Technology – 2** (Chair: Darina Dicheva) Regular: ◆ *Strategy Acquisition of Agents in Multi-Issue Negotiation* Shohei Yoshikawa, Takahiko Kamiryo, Yoshiaki Yasumura, and Kuniaki Uehara ◆ *Anting: An Adaptive Scanning Method for Computer Worms* Yi Tang and Xiangning Dong Short: ● *A Semantic Learning Approach for Mapping Unstructured Query to Web Resources* Gan Keng Hoon, Phang Keat Keong, and Tang Enya Kong ● *A Web-based System for Observing and Analyzing Computer Mediated Communications* Madeth May, Sebastien George, and Patrick Prévôt ● *The Research of a New Worklfow Model with Step-Task Layers Based on XML Documents* Xing Jianping, Zhao Lin, and Meng Lingguo ● *Safe Credential-Based Trust Protocols: A Framework* Sultan Almuhammadi and Nien T. Sui ● *Protocol Identification of Encrypted Network Traffic* Matthew Gebski, Alex Penev, and Raymond K. Wong	Session G6 (IAT) **Agent Collaboration** (Chair: Pericles A. Mitkas) Regular: ◆ Toward Inductive Logic *Programming for Collaborative Problem Solving* Jian Huang and Adrian Pearce ◆ *Symbolic Negotiation in Linear Logic with Coalition Formation* Peep Küngas and Mihhail Matskin ◆ *Efficient Bidding Strategies for Simultaneous Cliff-Edge Environments* Ron Katz and Sarit Kraus Short: ● *Public Mental Attitudes for ACL Semantics* Guido Boella, Rossana Damiano, Joris Hulstijn, and Leendert van der Torre ● *Cooperation Model of Multi-Agent System Based On The Situation Calculus* Yisong Liu, Lili Dong, and Yamin Sun ● *A Feasible and Practical Coalition Formation Mechanism: Leveraging Compromise and Task Relationships* Aknine Samir and Shehory Onn		Session G8 (ICDM Tutorial) **Hands-On Time-Series Analysis with Matlab** Michalis Vlachos and Spiros Papadimitriou
18:00-21:30 (210)	**Conference Cruise Banquet**			

December 21 Thursday				
Time	**Sessions**			
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**
8:30-10:00 (90)	Session H1 (ICDM) ICDM Best Application Paper (Chair: Qiang Yang) Invited Talk **Data mining methods for modeling gene expression regulation and their applications** Weixiong Zhang (Chair: Qiang Yang)	Session H2 (WI) **Web Usage Mining** (Chair: Ruth Cobos Pérez) Regular: ◆ *Relevance and Impact of Tabbed Browsing Behavior on Web Usage Mining* Maximilian Viermetz, Carsten Stolz, Vassil Gedov, and Michal Skubacz ◆ *Methodology for Preprocessing and Evaluating the Time Spent on Web Pages* Peter I. Hofgesang ◆ *Automatic Identification of Chinese Weblogger's Interests Based on Text Classification* Xiaochuan Ni, Xiaoyuan Wu, and Yong Yu Short: ● *Extracting Users' Interests from Web Log Data* Tsuyoshi Murata and Kota Saito ● *Active User-Based and Ontology-Based Web Log Data Preprocessing for Web Usage Mining* Natheer Khasawneh and Chien-Chung Chan ● *Detection of Bloggers' Interests: Using Textual, Temporal, and Interactive Features* Chun Yuan Teng and Hsin Hsi Chen	Session H3 (WI) **Interoperability and Integration of Ontologies** (Chair: Juanzi Li) Regular: ◆ *Interoperability among Distributed Overlapping Ontologies – A Fuzzy Ontology Framework* Muhammad Abulaish and Lipika Dey ◆ *A Fine-Grained Approach to Resolving Unsatisfiable Ontologies* Sik Chun Lam, Jeff Z. Pan, Derek Sleeman, and Wamberto Vasconcelos Short: ● *Importance of Entities in Knowledge* Jun Fang, Lei Guo, XiaoDong Wang, Liang Chen, Ning Yang, and WeiLi Yang ● *Geographic Named Entity Disambiguation with Automatic Profile Generation* Yefei Peng, Daqing He and Ming Mao ● *A Persistent Labeling Scheme for Dynamic ordered XML Trees* Aye Aye Khaing and Ni Lar Thein ● *Web Directory Integration Using Conditional Random Fields* Terry Chia-Wei Wu and Wen-Lian Hsu ● *Fuzzy Ontology Map - A Fuzzy Extension of the Hard-Constraint Ontology* Toby H. W. Lam	Session H4 (WI) **Recommender Systems and Information Filtering** (Chair: Patricia Victor) Regular: ● *C2 :: A Collaborative Recommendation System Based on Modal Symbolic User Profile* Byron Leite Dantas Bezerra, Francisco de Assis T Carvalho, and Valmir Macário Filho Short: ● *Recommender System Based on Consumer Product Reviews* Silvana Aciar, Debbie Zhang, Simeon Simoff, and John Debenham ● *Exploiting Trust and Suspicion for Real-time Attack Recognition in Recommender Applications* Ebrahim Bagheri and Ali Ghorbani ● *Recommender System Based on Temporal Database with Contextual Information using Temporal Logic* Zar Linn and Khin Hla ● *Research Paper Recommender Systems: A Random-Walk Based Approach* Marco Gori and Augusto Pucci ● *Distributed Recommender Profiling and Selection with Gittins Indices* Li-Tung Weng, Yue Xu, Yuefeng Li, and Richi Nayak ● *A Novel Web Page Filtering System by Combining Texts and Images* Zhouyao Chen, Ou Wu, Mingliang Zhu, and Weiming Hu ● *Personalization of e-newsletters based on Web Log Analysis and Clustering* Carla Carvalho, Alípio M. Jorge, and Carlos Soares
10:00-10:30 (30)	**Coffee Break**			
10:30-12:00 (90)	Session I1 (ICDM) **Closed Itemsets** (Chair: Yuefeng Li) Regular: ◆ *δ-Tolerance Closed Frequent Itemsets* James Cheng, Yiping Ke, and Wilfred Ng ◆ *Frequent Closed Itemset Mining Using Prefix Graphs with an Efficient Flow-Based Pruning Strategy* H.D.K. Moonesinghe, Samah Fodeh, and Pang-Ning Tan	Session I2 (ICDM) **Class Imbalance/Boosting** (Chair: Qiang Yang) Regular: ◆ *Discovering Unrevealed Properties of Probability Estimation Trees:on Algorithm Selection and Performance Explanation* kun zhang, Wei Fan, Bill Buckles, Xiaojing Yuan, and zujia xu ◆ *Boosting Kernel Models for Regression* Ping Sun and Xin Yao ◆ *Boosting for Learning Multiple Classes with Imbalanced Class Distribution* Yanmin Sun and Yang Wang	Session I3 (ICDM) **Applications** (Chair: Yong Shi) Regular: ◆ *Bayesian State Space Modeling Approach for Measuring the Effectiveness of Marketing Activities and Baseline Sales from POS Data* Tomohiro Ando ◆ *Data Mining Approaches to Criminal Career Analysis* Tim Cocx, Jeroen de Bruin, Walter Kosters, Jeroen Laros & Joost Kok ◆ *A Data Mining Approach for Capacity Building of Stakeholders in Integrated Flood Management* Peter Owotoki, Nataša Manojlović, Friedrich Mayer-Lindenberg, and Erik Pasche	Session I4 (WI) **Content Categorization** (Chair: Sheung-On Choy) Regular: ◆ *The Role of URLs in Objectionable Web Content Categorization* Jianping Zhang, Jason qin, and Qiuming Yan ◆ *Personalized Spam Filtering with Semi-supervised Classifier Ensemble* Victor Cheng and C. H. Li Short: ● *Finding Short Patterns to Classify Text Documents* Jiyuan An and Yi-Ping Phoebe Chen ● *A Study of X^2-Test for Text Categorization*

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Venue	**Room 405**	**Room 406**	**Room 407**	**Room 408**

Time	Room 405	Room 406	Room 407	Room 408
8:30-10:00 (90)	Session H5 (WI) **Intelligent Human-Web Interaction** (Chair: Debajyoti Mukhopadhyay) Regular: ◆ *A Web Browser for Ajax Approach with Asynchronous Communication Model* Noriko Hanakawa and Nao Ikemiya ◆ *Designing Interaction Paradigms for Web-Information Search and Retrieval* Ya-Wen Hsu, Naureen Moon, and Rahul Singh ◆ *3D Component-Based Visualization Framework for Generating Simple 3D Applications Using Web Services* Masahiko Itoh and Yuzuru Tanaka ◆ *Effective Page Segmentation Combining Pattern Analysis and Visual Separators for Browsing on Small Screens* Peifeng Xiang, Xin Yang, and Yuanchun Shi Short: ● *Topic-Specific Web Content Adaptation to Mobile Devices* Eunshil Lee, Jinbeom Kang, Joongmin Choi, and Jaeyoung Yang	Session H6 (IAT) **Building Multi-agent Systems** (Chair: Nicolas Sabouret) Regular: ◆ *A Predictive Method for Providing Fault Tolerance in Multi-Agent Systems* Alessandro Almeida, Samir Aknine, Jean-Pierre Briot, and Jacques Malenfant ◆ *A Logging-Based Approach for Building More Robust Multi-Agent Systems* Amy Unruh, James Bailey, and Kotagiri Ramamohanarao ◆ *An Autonomic Problem Determination and Remediation Agent for Ambiguous Situations Based on Singular Value Decomposition Technique* Hoi Chan and Thomas Kwok Short: ● *An Improved Formal Framework of Actions, Individual Intention and Group Intention for Multi-agent Systems* Xianwei Lai, Shanli Hu, and Zhengyuan Ning ● *Observant and Proactive Communication in Multi-Agent Teamwork* Yu Zhang	Session H7 (IAT) **Agent-based Control** (Chair: Kasper Hallenborg) Regular: ◆ *Dynamical Control in Large-scale Material Handling Systems through Agent Technology* Kasper Hallenborg and Yves Demazeau ◆ *Agent-Based Control Framework for Distributed Energy Resources Microgrids* Zhenhua Jiang ◆ *A Multi-Agent System for Building Control* Bing Qiao, Kecheng Liu, and Chris Guy Short: ● *Ubiquitous Home Security Robot based on Sensor Network* Yoon-Gu Kim, Han-Kil Kim, Sun-Han Yoon, Suk-Gyu Lee, and Ki-Dong Lee ● *Integrating a Priority-Based Scheduler of Behaviours in JADE* Juan A. Suárez-Romero, Amparo Alonso-Betanzos, and Bertha Guijarro-Berdiñas	Session H8 (WI) **Enhancing Web Services** (Chair: Xueli Yu) Regular: ◆ *On Board: Sharing Resources in a Collaborative Grid-TV Environment* Pilar Herrero, Jose Luis Bosque, Manuel Salvadores, and María S. Pérez ◆ *A Memory-Efficient Strategy for Exploring the Web* Carlos Castillo, Alberto Nelli, and Alessandro Panconesi Short: ● *Towards a Transaction Model for Services in Grid Environment* Jinlei Jiang, Guangwen Yang, and Meilin Shi ● *Subject-Oriented Knowledge Formalization: Method and Prototype* Xuan Zhou, Qing Li, Lars Ludwig, and Yuliu Chen ● *A New Method of Security Feature Extraction based on Association Rules* Dun Li, Yuanda Cao, and Yueliang Wan ● *SpamWall: Heuristic Filter for Web-Spam* Animesh Trivedi and Aasish Pappu ● *Business Process Integration of Third-party Logistics Service Providers in E-commerce* Li Yan, Liu Zhixue, and Xu Juan
10:00-10:30 (30)	**Coffee Break**			
10:30-12:00 (90)	Session I5 (WI) **Ontology Management and Learning** (Chair: William Cheung) Regular: ◆ *Forgetting in Managing Rules and Ontologies* Thomas Eiter, Giovambattista Ianni, Roman Schindlauer, Hans Tompits, and Kewen Wang ◆ *A Tableau-based Federated Reasoning Algorithm for Modular Ontologies* Jie Bao, Doina Caragea, and Vasant Honavar Short: ● *Using Semantic Web Technology for Self-Management of Distributed Object-Oriented Systems* A.R. Haydarlou, M.A. Oey, B.J. Overeinder, and F.M.T. Brazier ● *Heraclitus II: A Framework for Ontology*	Session I6 (IAT) **Agents under Uncertainty** (Chair: Chun-Nan Hsu) Regular: ◆ *Iterative Compilation of Multiagent Probabilistic Graphical Models* Xiangdong An and Nick Cercone ◆ *Iterative Multiagent Probabilistic Inference* Xiangdong An and Nick Cercone ◆ *Fuzzy Adaptive Agent for Supply Chain Management* Sio Fan Lou and Yain Whar Si ◆ *Probability Fuzzy Cognitive Map for Decision-making in Soccer Robotics* Huaqing Min	Session I7 (IAT) **Autonomy-Oriented Computing** (Chair: Zhenhua Jiang) Regular: ◆ *A General Framework for Parallel BDI Agents* Huiliang Zhang and Shell Ying Huang ◆ *Goal-Oriented Development of BDI Agents: the PRACTIONIST Approach* Vito Morreale, Susanna Bonura, Giuseppe Francaviglia, Fabio Centineo, Massimo Cossentino, and Salvatore Gaglio ◆ *Integrating Value Directed Compression and Belief Space Analysis for POMDP Decomposition* Xin Li, William K. Cheung, and	Session I8 (ICDM Tutorial) **Predictive Learning on Data Streams** Haixun Wang and Ying Yang

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Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**

	Room 401	Room 402	Room 403	Room 404
	Short: ● *AC-Close: Efficiently Mining Approximate Closed Itemsets by Core Pattern Recovery* Hong Cheng, Philip S. Yu, and Jiawei Han ● *TOP-COP: Mining TOP-K Strongly Correlated Pairs in Large Databases* Hui Xiong, Mark Brodie, and Sheng Ma	Short: ● *Exploratory Under-Sampling for Class-Imbalance Learning* Xu-Ying Liu, Jianxin Wu, and Zhi-Hua Zhou ● *The Influence of Class Imbalance on Cost-Sensitive Learning: An Empirical Study* Xu-Ying Liu and Zhi-Hua Zhou	Short: ● *Direct Marketing When There Are Voluntary Buyers* Yi-Ting Lai, Ke Wang, Daymond Ling, Hua Shi, and Jason Zhang ● *Mining Maximal Quasi-Bicliques to Co-Cluster Stocks and Financial Ratios for Value Investment* Kelvin Sim, Jinyan Li, Vivekanand Gopalkrishnan, and Guimei Liu	Yao-Tsung Chen and MengChang Chen ● *Support Vector Machines for Text Categorization in Chinese Question Classification* Xu-dong Lin, Hong Peng, and Bo Liu ● *Analyzing the Effect of Document Representation on Machine Learning Approaches in Multi-Class e-Mail Filtering* Helmut Berger, Michael Dittenbach, and Dieter Merkl ● *Binary Cybergenre Classification Using Theoretic Feature Measures* Lei Dong, Carolyn Watters, Jack Duffy, and Michael Shepherd

12:00-13:30 (90) **Business Meeting (Lunch provided)** - Room 401

Time	Room 401	Room 402	Room 403	Room 404
	Session J1 (ICDM) **Social Networks** (Chair: Robert Gwadera)	Session J2 (ICDM) **Co-clustering** (Chair: Spiros Papadimitriou)	Session J3 (ICDM) **Ensembles** (Chair: Zhi-Hua Zhou)	Session J4 (WI) **Annotation, Discovery and Web Personalization** (Chair: Chao Wang)
13:30-15:30 (120)	Regular: ◆ *Latent Friend Mining from Blog Data* Dou Shen, Jian-Tao Sun, Qiang Yang, and Zheng Chen ◆ *Cluster Ranking with an Application to Mining Mailbox Networks* Ido Guy, Ziv Bar-Yossef, Ronny Lempel, Yoelle S. Maarek, ◆ *Who thinks who knows who? Socio-cognitive analysis of email networks* Nishith Pathak, Sandeep Mane, and Jaideep Srivastava Short: ● *An Effective Algorithm for Mining Competitors from the Web* Rui Li, Shenghua Bao, Jin Wang, Yong Yu, and Yubo Cao ● *Recommendation on Item Graphs* Fei Wang, Sheng Ma, and Tao Li ● *Social Capital in Friendship-Event Networks* Louis Licamele and Lise Getoor ● *An Experimental Investigation of Graph Kernels on two Collaborative Recommendation Tasks* Francois Fouss, Luh Yen, Alain Pirotte, and Marco Saerens	Regular: ◆ *Turning Clusters into Patterns: Rectangle-based Discriminative Data Description* Byron Gao and Martin Ester ◆ *Co-clustering documents and words using Bipartite Isoperimetric Graph Partitioning* Manjeet Rege, Ming Dong, and Farshad Fotouhi ◆ *Latent Dirichlet Co-Clustering* Mahdi Shafiei and Evangelos Milios ◆ *Dirichlet Aspect Weighting: A Generalized EM algorithm for Integrating External Data Fields with Semantically Structured Queries by using Gradient Projection Method* Atulya Velivelli and Thomas Huang Short: ● *Discover Bayesian Networks from Incomplete Data Using a Hybrid Evolutionary Algorithm* Man Leung Wong and Yuan Yuan Guo ● *Star-Structured High-Order Heterogeneous Data Co-clustering based on Consistent Information Theory* Bin Gao, Tie-Yan Liu, and Wei-Ying Ma	Regular: ◆ *Relational Ensemble Classification* Christine Preisach and Lars Schmidt-Thieme ◆ *Using an Ensemble of One-Class SVM Classifiers to Harden Payload-based Anomaly Detection Systems* Roberto Perdisci, Guofei Gu, and Wenke Lee Short: ● *Constructing Ensembles for Better Ranking* Jin Huang and Charles Ling ● *Corrective Classification: A Classifier Ensemble with Corrective and Diverse Base Learners* YAN ZHANG, XINGQUAN ZHU, and XINDONG WU ● *Getting the Most Out of Ensemble Selection* Rich Caruana, Art Munson, and Alexandru Niculescu-Mizil ● *Improving Nearest Neighbor Classifier using Tabu Search and Ensemble Distance Metrics* Muhammad Atif Tahir and James Smith	Regular: ◆ *Using Multimedia Ontology for generating Conceptual Annotations and Hyperlinks in Video collections* Gaurav Harit, Santanu Chaudhury, and Hiranmay Ghosh ◆ *An Effective Approach for Periodic Web Personalization* Baoyao Zhou, Siu Cheung Hui, and Alvis C.M. Fong Short: ● *Semantic Analysis of Web Pages Using Web Patterns* Milos Kudelka, Vaclav Snasel, Ondrej Lehecka, and Eyas El-Qawasmeh ● *Web Information Retrieval in Collaborative Tagging Systems* Sheung-On Choy and Andrew K. Lui ● *Learning to Generate Labels for Organizing Search Results from a Domain-Specified Corpus* Jing Zhao and Jing He ● *Web Appearance Disambiguation of Personal Names Based on Network Motif* Kai-Hsiang Yang, Kun-Yan Chiou, Hahn-Ming Lee, and Jan-Ming Ho ● *Automated Concept Discovery from Web Resources* Michael Dittenbach, Helmut Berger, and Dieter Merkl ● *Improving Web Site Content Using a Concept-based Knowledge Discovery Process* Sebastian Rios, Juan Velasquez, Eduardo S. Vera, Hiroshi Yasuda, and Terumasa Aoki ● *Extraction of Reliable Reputation Information Using Contributor's Stance* Takayuki Yamada, Daisaku Sakano, Yoshiaki Yasumura, and Kuniaki Uehara

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Venue	**Room 405**	**Room 406**	**Room 407**	**Room 408**

Time	Room 405	Room 406	Room 407	Room 408
	Management and Evolution Alexander Mikroyannidis and Babis Theodoulidis ● *Toward Semantic QoS-aware Web Services: Issues, Related Studies and Experience* Jiehan Zhou and Eila Niemela ● *Integration of Ontology Data through Learning Instance Matching* Chao Wang, Jie Lu, and Guangquan Zhang ● *Mapping between Relational Database Schema and OWL Ontology for Deep Annotation* Zhuoming Xu, Shichao Zhang, and Yisheng Dong	Short: ● *A Multi-agent Bayesian Inference Mechanism for Topology Balancing in Unstructured P2P Networks* Prithviraj Dasgupta	Jiming Liu Short: ● *A Graph based Simulation of Reorganization in Multi-Agent Systems* Zheng-guang Wang, Xiao-hui Liang, and Qin-ping Zhao	

12:00-13:30 (90)	**Business Meeting (Lunch provided)** - Room 401			

| 13:30-15:30 (120) | Session J5 (WI)
Ontology Learning and Engineering
(Chair: Serge Garlatti)

Regular:
◆ *Context-based Hierarchical Clustering for the Ontology Learning*
Lobna Karoui, Marie-Aude Aufaure, and Nacera Bennacer
◆ *Mining Domain-Specific Thesauri from Wikipedia: A case study*
David Milne, Olena Medelyan, and Ian H. Witten
◆ *Identifying document topics using the Wikipedia category network*
Peter Schonhofen
◆ *SeseiOnto: Interfacing NLP and Ontology Extraction*
Maxime Morneau, Guy W. Mineau, and Dan Corbett

Short:
● *Automatic Ontology Generation Using Schema Information*
Shun-hong Sie and Jian-hua Yeh
● *Course Composition based on Semantic Topical Dependency*
Javed I. Khan, Yongbin Ma, and Manas Hardas
● *Towards A Selective Inference Platform Based On OWL*
Youwei Xu, Shengqun Tang, and Yan Yang
● *Corporate Memory Meets the Semantic Web*
Sylvia C Wong, Richard M Crowder, Gary B Wills, and Nigel R Shadbolt | Session J6 (IAT)
Agents in Competing Goals
(Chair: Peter Bodorik)

Regular:
◆ *Adaptive Negotiation with On-line Prediction of Opponent Behaviour in Agent-based Negotiations*
Jakub Brzostowski and Ryszard Kowalczyk
◆ *A Market-based Adaptation for Resolving Competing Needs for Scarce Resources*
Rui Wang, Tracy Mullen, and John Yen
◆ *Resolution-based Policy Search for Imperfect Information Differential Games*
Minh Nguyen-Duc and Brahim Chaib-draa
◆ *Designing Commitment-Based Agent Interactions*
Michael Winikoff
◆ *The Two Facets of the Exploration-Exploitation Dilemma*
Kaifu Zhang and Wei Pan
◆ *An Autonomous Trust Construction System Based on Bayesian Method*
Wei Wang, Guosun Zeng, and Tao Liu | Session J7 (IAT)
Applications of Autonomy Oriented Computing
(Chair: Shell Ying Huang)

Regular:
◆ *Non-normative Behaviour in Multi-agent System: Some Experiments in Traffic Simulation*
Arnaud Doniec, Stéphane Espié, René Mandiau, and Sylvain Piechowiak
◆ *Evaluating JACK Sim for agent-based modelling of pedestrians*
Nicole Ronald, Leon Sterling, and Michael Kirley
◆ *A Modified Particle Swarm Algorithm Combined with Fuzzy Neural Network with Application to Financial Risk Early Warning*
Fuyuan Huang, Rongjun Li, HanXia Liu, and Rui Li
◆ *Particle Swarms Cooperative Optimization for Multi-task Coalition Generation Problem in Parallel Manner*
Guofu Zhang, Jianguo Jiang, Na Xia, and Guofu Zhang

Short:
● *Autonomous Agents and Cellular Automata Modeling Traffic Flow*
Mingzhe Liu
● *Market-Based Distributed Task Selection in Multi-Agent Swarms*
Matthew Hoeing and Prithviraj Dasgupta
● *Implementation of a Molecular Simulator Based on a MultiAgent System*
Fabio Avellaneda Pachón, Juan Pablo Garzón Ruiz, and Enrique González Guerrero
● *Dynamic Reconfiguration of Multi-Agent Systems Based on Autonomy Oriented Computing*
Li Tao and Zili Zhang | Session J8
(WI/IAT Tutorial)
Building an Intelligent Web: theory and practice
Pawan Lingras and Rajendra Akerkar |

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Time	**Sessions**			
Venue	**Room 401**	**Room 402**	**Room 403**	**Room 404**
				● *Name Disambiguation in Person Information Mining* Yu-Chuan Wei, Ming-Shun Lin, and Hsin-Hsi Chen
15:30-16:00 (30)	**Coffee Break**			
16:00-19:00 (180)	Session K1 (ICDM) **Panel** **Top 10 Algorithms in Data Mining** Xindong Wu and Vipin Kumar (Chair: Yong Shi)	Session K2 (WI) **Social Interaction, Knowledge Community, Agents and Wisdom** (Chair: Yuefeng Li) Regular: ◆ *Specifications and Rapid Prototyping of Multi-Agent Systems through Coloured Petri Net represented in Abductive Logic Programming (CPN-LP)* T. H. Fung ◆ *From Local Behaviors to the Dynamics in an Agent Network* Shiwu Zhang and Jiming Liu Short: ● *Utilizing Rich Bluetooth Environments for Identity Prediction and Exploring Social Networks as Techniques for Ubiquitous Computing* Jukka Perkiö, Ville Tuulos, Marion Hermersdorf, Heli Nyholm, Jukka Salminen, and Henry Tirri ● *A Kind of Efficient Agent-Based Platform Supporting Multimedia Seamless Mobility for Pervasive Computing* Xiaobin Huang ● *An Intelligent Trust Mechanism Based on Swarm Intelligence* Wang Wei and Zeng Guosun ● *Performances of Mobile-agents for Interactive Image Retrieval* David Picard, Arnaud Revel, and Matthieu Cord ● *A Web Service Workflow System using Genetic Planner and Scheduler* Fabiano Alves, Kairon Guimarães, and Márcia Fernandes	Session K3 (WI) **Web Search Engine** (Chair: Kensuke Fukuda) Regular: ◆ *Web Search Engine as a Bee Hive* Pavol Navrat and Martin Kovacik ◆ *Proof: A DHT-Based Peer-to-Peer Search Engine* Kai-Hsiang Yang and Jan-Ming Ho ◆ *Interactive Web Information Retrieval Using WordBars* Orland Hoeber and Xue Dong Yang Short: ● *UPRE: User Preference based Search System* Peter Gursky, Tomas Horvath, Robert Novotny, Veronika Vanekova, and Peter Vojtas ● *A Hierarchy of Search Engines based on ODP Concepts* Venkata Sudhakar Reddy Ch and Banshi.D. Chaudhary ● *A Framework of Feedback Search Engine Motivated by Content Relevance Mining* Yuexian Hou, Honglei Zhu, and Pilian He ● *Rapid Synthesis of Domain-Specific Web Search Engines Based on Semi-Automatic Training-Example Generation* Hidetomo Nabeshima, Reiko Miyagawa, Yuki Suzuki, and Koji Iwanuma ● *Substitution or Complement: An Empirical Analysis on the Impact of Collaborative Tagging on Web Search* Peng Han, Zhimei Wang, Zhiyun Li, Bernd Krämer, and Fan Yang	Session K4 (WI) **Web Mining and Web Support Systems** (Chair: Xiaoying Gao) Regular: ◆ *Mining the Web for Transliteration Lexicons: Joint-Validation Approach* Jong-Hoon Oh and Hitoshi Isahara ◆ *A Data Complexity Analysis on imbalanced datasets and an Alternative Imbalance* Cheng G. Weng and Josiah Poon ◆ *Privacy Preserving Multiagent Probabilistic Reasoning about Ambiguous Contexts: A Case Study* Xiangdong An, Dawn Jutla, and Nick Cercone Short: ● *Topic Detection and Tracking for News Web Pages* Masaki Mori, Takao Miura, and Isamu Shioya ● *IMFTS: High-Speed Mining Frequent Traversal Sequences with Bidirectional Constraints* Jiadong Ren, Xiaojian Zhang, and Huili Peng ● *A Simple and Accurate Progressive Algorithm for Training Transductive SVMs* Lei Wang, Shixin Sun, and Jie Li ● *The Design of Gugubarra 2.0: A Tool for Building and Managing Profiles of Web Users* Natascha Hoebel, Sascha Kaufmann, Karsten Tolle, and Roberto V. Zicari ● *Adopting Wildlife Experiments for Web Evolution Estimations: The Role of an AI Web Page Classifier* Ioannis Anagnostopoulos and Photis Stavropoulos ● *Web-Based Distributed Embedded Gateway System Design* Qiang Huang, J.S. Smith, and Tuo Li ● *Protection Techniques from Information Extraction* Gianluigi Greco, Giovambattista Ianni, Vincenzino Lio, and Luigi Palopoli ● *Identifying User Goals from Web Search Results* Yao-Sheng Chang, Kuan-Yu He, Scott Yu, and Wen-Hsiang Lu ● *QSCM: Engineering QoS in Web-Based Software Configuration Management System* Xiuli Wang, Yongji Wang, and Hui Zhou

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Venue	**Room 405**	**Room 406**	**Room 407**	**Room 408**
15:30-16:00 (30)	**Coffee Break**			
16:00-19:00 (180)	Session K5 (WI) **Ontology Engineering** (Chair: Peter Schonhofen) Regular: ◆ *Instanciation of Relations for Semantic Annotation* S. Tenier and Y. Toussaint, A. Napoli, and X. Polanco ◆ *Research on Reasoning of the Dynamic Semantic Web Services Composition* Yingjie Li, Xueli Yu, Lili Geng, and Li Wang ◆ *Fast Rollup on Recursive Hierarchy in OLAP* Lin Yuan and Hengming Zou Short: ● *Utilizing Search Intent in Topic Ontology-based User Profile for Web Mining* Xujuan Zhou, Sheng-Tang Wu, Yuefeng Li, Yue Xu, Raymond Y.K. Lau, and Peter Bruza ● *Towards a New Approach for Information Retrieval in the SemanticLIFE Digital Memory Framework* Hanh Huu Hoang、Amin Andjomshoaa, and A Min Tjoa ● *Automatic Acquiring Training Sets for Web Information Gathering* Xiaohui Tao, Yuefeng Li, Ning Zhong, and Richi Nayak ● *Retrieving and Matching RDF Graphs by Solving Satisfiability Problem* Sheng Liu and Jian Zhang ● *A Hybrid Model of Image Retrieval Based on Ontology Technology and Probabilistic Ranking* Lisa Fan and Botang Li ● *Document Classification Based on Support Vector Machine Using A Concept Vector Model* Shuang Deng and Hong Peng ● *Improving link analysis through Considering Hosts and Blocks* Qiang Wang, Yan Liu, JunYong Luo, Jing Ning, and Qing Yao ● *Web Service Based Architecture and Ontology Based User Model for Cross-System Personalization* Fuzhi Zhang, Zhizheng Song, and He Zhang	Session K6 (IAT) **Building Distributed Systems** (Chair: Michael Winikoff) Regular: ◆ *Perceptive Middleware and Intelligent Agents Enhancing Service Autonomy in Smart Spaces* Nikolaos Dimakis, John Soldatos, Lazaros Polymenakos, Manfred Schenk, Uwe Pfirrmann, and Axel Bürkle ◆ *An Efficient Distributed Broadcast Algorithm for Ad Hoc Networks* Layuan Li, Chunlin Li, and Qiang Sun ◆ *State Space Segmentation for Acquisition of Agent Behavior* Hiroaki Ueda, Takeshi Naraki, Kenichi Takahashi, and Tetsuhiro Miyahara Short: ● *Multi-Agent Coordination and Cooperation through Classical Planning* Yannis Dimopoulos and Pavlos Moraitis ● *Modeling Delegation through an i*-based Approach* Stephane Dehousse, Lin Liu, Stephane Faulker, Manuel Kolp, and Haris Mouratidis ● *Reuse Interaction Protocols to Develop Interactive Agents* Tarek Jarraya and Zahia Guessoum ● *A Component-Based Architecture for Multi-Agent Systems* Kaiyu Wan and Vasu Alagar ● *Multi-Agent Interaction Based Collaborative P2P System for Fighting Spam* Guoqing Mo, Wei Zhao, Haixia Cao, and Jianshe Dong	Session K7 (IAT) **Applications of Intelligent Agent Technology** (Chair: Stephane Espie) Regular: ◆ *Follow the Leader: Profiling Agents in an Opinion Formation Model of Dynamic Confidence and Individual Mind-sets* Daniel Ramirez-Cano and Jeremy Pitt ◆ *Transforming Natural Arguments in Araucaria to Formal Arguments in LMA* Yohsuke Takahashi, Hajime Sawamura, and Jing Zhang Short: ● *Co-evolution of Agent-Oriented Conceptual Models and CASO Agent Programs* Aniruddha Dasgupta, Aneesh Krishna, and Aditya Ghose ● *Flexible Workflow Driven Job Shop Manufacturing Execution and Automation Based on Multi Agent System* Yanli He, Haicheng Yang, Weiping He, Wei Zhang, and Xinping Hu ● *Defeasible Reasoning with e-Contracts* Georgios K. Giannikis and Aspassia Daskalopulu ● *A Call Handling Assistant for Mobile Devices* Wayne Wobcke, Yiu-Wa Rita Chan, Yunghan Andrew Limaru, and Anna Wong ● *Agent-Based Soft Computing Society Applied in the Research of Reservoir Sedimentary Facies in Oil fields* Fuhua Shang, Ruishan Du, and Yang Li ● *POCAp: A Software Process for Context-aware Computing* Renato Bulcao Neto, Taciana Kudo, and Maria da Graca Pimentel	Session K8 (IAT) **Web Services and QoS** (Chair: William Cheung) Regular: ◆ *Dynamic Protocol Selection in Open and Heterogeneous Systems* Jose Ghislain Quenum, Samir Aknine, and Onn Shehory ◆ *An Agent based QoS Conflict Mediation Framework for Web Services Compositions* Xuan Thang Nguyen ◆ *A Labeled Graph Approach to Analyze Organizational Performance* Mark Hoogendoorn, Jan Treur, and Pinar Yolum Short: ● *A Comparative Study of Parallel Reinforcement Learning Methods with a PC Cluster System* Masayuki Kushida, Kenichi Takahashi, Hiroaki Ueda, and Tetsuhiro Miyahara ● *Multi-Agent Systems Performance by Adaptive/Non-Adaptive Agent Selection* Toshiharu Sugawara, Kensuke Fukuda, Toshio Hirotsu, Shin-ya Sato, and Satoshi Kurihara ● *A Distributed Fuzzy Qualitative Evaluation System* Kevin Kam Fung Yuen and H.C.W. Lau

ICDM-WI-IAT Industry/Demo Track (Venue: Room 301)

ICDM

■ *CARSA - A meta search engine*
Korinna Bade

■ *Concept-based Search Engine*
Shady Shehata

■ *Certhia: Tree-Query Mining in Large Graphs*
Eveline Hoekx

■ *MARGIN: Maximal Frequent Subgraph Mining*
Lini Thomas, Satyanarayana R Valluri and Kamalakar Karlapalem

■ *Optimal Segmentation Using Tree Models*
Robert Gwadera

■ *BibSonomy: A Social Bookmark and Publication Sharing System*
Robert Jaeschke

■ *TMG: A MATLAB Toolbox for Text Indexing, Retrieval, and Classification*
Dimitrios Zeimpekis

WI-IAT

<u>Regular Papers:</u>
◆ *A Web Browser for Ajax Approach with Asynchronous Communication Model*
Noriko Hanakawa and Nao Ikemiya

◆ *Interactive Web Information Retrieval Using WordBars*
Orland Hoeber and Xue Dong Yang

◆ *Process-Recollective Refinding on the Web*
Ippei Nishimoto and Masashi Todda

◆ *Effective Page Segmentation Combining Pattern Analysis and Visual Separators for Browsing on Small Screens*
Peifeng Xiang, Xin Yang, and Yuanchun Shi

◆ *A Negotiation Framework for Collision Avoidance between Vessels*
Hu Qinyou, Hu Qiaoer, and Chen Haishan

◆ *Designing Commitment-Based Agent Interactions*
Michael Winikoff

◆ *Storytelling Ontology Model using RST*
Arturo Nakasone and Mitsuru Ishizuka

◆ *Learning Dynamic Bayesian Networks Using Evolutionary Mcmc*
Hao Wang, Kui Yu, and Hongliang Yao

WI-IAT (Continue)

<u>Short Papers</u>
● *Fuzzy Ontology Map - A Fuzzy Extension of the Hard-Constraint Ontology*
Toby H. W. Lam

● *A Novel Web Page Filtering System by Combining Texts and Images*
Zhouyao Chen, Ou Wu, Mingliang Zhu, and Weiming Hu

● *Towards A Selective Inference Platform Based On OWL*
Youwei Xu, Shengqun Tang, and Yan Yang

● *Semantic Analysis of Web Pages Using Web Patterns*
Milos Kudelka, Vaclav Snasel, Ondrej Lehecka, and Eyas El-Qawasmeh

● *An SOA-based Software Deployment Management System*
Ing-Yi Chen and Chao-Chi Huan

● *Protection Techniques from Information Extraction*
Gianluigi Greco, Giovambattista Ianni, Vincenzino Lio, and Luigi Palopoli

● *Subject-Oriented Knowledge Formalization: Method and Prototype*
Xuan Zhou, Qing Li, Lars Ludwig, and Yuliu Chen

● *PARMENIDES: Towards Business Intelligence Discovery from Web Data*
Alexander Mikroyannidis, Babis Theodoulidis, and Andreas Persidis

● *iShakti – Crossing the Digital Divide in Rural India*
Shail Patel, Ogi Batavaljic, Paulo J. Lisboa, Chris Hawkins, and Rohithari Rajan

● *Towards Automated Reputation and Brand Monitoring on the Web*
Cai-Nicolas Ziegler and Michal Skubacz

● *dlvhex: A Prover for Semantic-Web Reasoning under the Answer-Set Semantics*
Thomas Eiter, Giovambattista Ianni, Roman Schindlauer, and Hans Tompits

● *MICE3: An Information Desktop on the Web*
Gan Keng Hoon, Saravadee Sae Tan, and Bryan Gan

● *Integrated Argumentation Environment*
Takashi Isogai, Taro Fukumoto, and Hajime Sawamura

● *VIREX: Interactive Approach for Database Querying and Integration by Re-engineering Relational Data into XML*
Anthony Lo, Reda Alhajj, and Ken Barker

● *A Distributed Fuzzy Qualitative Evaluation System*
Kevin Kam Fung Yuen and H.C.W. Lau

● *A Bounded Q-decomposition RTDP Approach to Resource Allocation*
Pierrick Plamondon and Brahim Chaib-draa

● *Collaborative RPD Agents Assisting Decision Making in Active Decision Spaces*
Guruprasad Airy, Po-Chun Chen, Xiacong Fan, John Yen, David Hall, Michael Brogan, and Tim Huynh

● *Multi-agent Software Tool for Management of Design Process in Microelectronics*
Vladimir Gorodetskiy, Oleg Karsaev, Victor Konushy, Wolf-Ekkehard Matzke, Eyck Jentzsch, and Vadim Ermolayev

● *Socially Intelligent Agent Architecture with Autonomic System Personalization*
Azree Shahrel A. Nazri, Abd Azim Abd Ghani, and Md. Nasir Sulaiman

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Xiaofeng Zhu
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Conference Information

About Hong Kong

Hong Kong locates at the southeastern tip of China, with a total area of 1 103 square kilometers.   It covers Hong Kong Island, the Kowloon peninsula just opposite, and the New Territories the more rural section of Hong Kong, which also includes 262 outlying islands.

Hong Kong's population was about 6.88 million in mid-2004.   It is one of the world's freest economies and it advocates and practices free trade.   Chinese and English are the official languages of Hong Kong.

About Hong Kong Baptist University

HKBU was founded by the Baptist Convention of Hong Kong as a private, post-secondary college, which became fully funded by the Government in 1983 and acquired university status and title in 1994. Committed to the provision of quality whole-person education, HKBU enrolls around 8,400 students and offers 31 undergraduate programs and 46 taught postgraduate courses and research programs. HKBU puts dual emphasis on teaching and research, and has established 27 research centers under its faculties and schools to nature excellence in selected research areas.

Hong Kong Convention & Exhibition Centre

The Hong Kong Convention & Exhibition Centre is one of Hong Kong's defining landmarks, with its distinctive curved three-tier roof and vast expanse of glass walls creating a dramatic vista.

Registration and Help Desk

The Registration/Help Desk is located in the foyer of Room 401. The desk will be open during the following hours for registration and help information:

Dec 18, Monday: 7:30am to 6:00pm

Dec 19, Tuesday: 7:30am to 5:30pm

Dec 20, Wednesday: 8:00am to 5:30pm

Dec 21, Thursday: 8:30am to 3:30pm

Extra tickets for social events may be purchased from the registration desk.

Break Locations

Coffee will be available in the Foyer.

Internet Access

Internet access is provided in Room 409. Cable access and fixed terminals are available from Monday lunchtime. Additionally, wireless access covers all the 400 Series Meeting Rooms.

Message Board

There is a message board in the foyer of Room 401 for participants to use. News, meeting announcements and general information will be posted there too.

Book Exhibition

The following publishers will be exhibiting during the conference period in the foyer of Room 401.

- **Elsevier**
- **IOS Press**
- **Springer-Verlag**

Useful Telephone Numbers

- **Country Code: 852**
- **Directory Enquiries: 1081**
- **Emergency Service (Police, Fire, Ambulance): 999**
- **Hong Kong Tourism Board Visitor Hotline: 2508 1234**
- **General Police Enquiries: 2527 7177**
- **Hong Kong International Airport, English (24 hours): 2181 0000**
- **Hong Kong Immigration Department (24 hours): 2824 6111**

Social Program

Welcome Reception

19 December 2006 18:30pm-20:30pm

Regular registrants only

The ICDM-WI-IAT Welcome Reception will be a standing cocktail held at 18:30pm-20:30pm in Room 301, HKCEC. Additional tickets are available from the Registration Desk for US$40 each person.

Conference Cruise Banquet

20 December 2006 18:00pm to 21:30pm

Regular registrants only

The ICDM-WI-IAT Conference Banquet will be a buffet dinner on the Bauhinia Cruise. Eligible participants are advised to gather at the foyer of 400 Series Meeting Rooms at 17:40pm. Guides will pick up participants from HKCEC to the ferry pier starting at 17:45pm. Additional tickets are available from the Registration Desk for US$70 each person.