Welcome Message

WI’03 and IAT’03

Welcome to the 2003 IEEE/WIC International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI’03 and IAT’03). On behalf of the WI’03 and IAT’03 Conference Committees, we would like to thank you for coming to WI’03 and IAT’03, and we hope you will enjoy the conference technical and social programs as well as the beautiful city of Halifax, Canada.

The WI’03 and IAT’03 conferences are sponsored and organized by the IEEE Computer Society Technical Committee on Computational Intelligence (TCCI) and by the Web Intelligence Consortium (WIC).

Web intelligence (WI) is a field of scientific research and development that deals with the fundamental roles and practical impacts of artificial intelligence (AI) and advanced information technology (IT) on the next generation of Web-empowered products, systems, services, and activities. Following the great success of WI’01 held in Maebashi City, Japan, in 2001, WI’03 will provide a leading international forum for researchers and practitioners (1) to present the state-of-the-art WI technologies and (2) to cross-fertilize ideas on the development of Web-based intelligent information systems among different domains.

IAT’03 follows the great success of IAT’99 held in Hong Kong in 1999 and IAT’01 held in Maebashi City, Japan, in 2001. The aim of IAT’03 is to bring together researchers and practitioners from diverse fields, such as artificial intelligence, software engineering, Internet computing, computational sciences, business, and robotics and automation. By encouraging idea sharing and discussions on the underlying logical, cognitive, physical, and biological foundations as well as the enabling technologies of intelligent agents, IAT’03 is expected to stimulate the future development of new models, new methodologies, and new tools for building a variety of embodiments of agent-based systems.

Both WI and IAT are interdisciplinary fields of research and development. The topics of WI’03 and IAT’03 will cover, but are not limited to, the following:

**WT’03 Topics**

- *Knowledge Networks and Management*: digital libraries, information and knowledge markets, network community formation and support, ontology engineering, semantic Web, visualization of information and knowledge, Web-based decision support, and Web regularities and models
- *Ubiquitous Computing and Social Intelligence*: competitive dynamics of Web sites computational societies and markets, dynamics of information sources, ubiquitous learning systems, Web-based cooperative work, and Web security, integrity, privacy, and trust
• **Intelligent Human-Web Interaction:** adaptive Web interfaces, multimedia representation, multimodal data processing
• **Web Information Management:** data models for the Web, integrated exploration and exploitation, multidimensional Web databases and OLAP, multimedia information management, object-oriented Web information management, personalized information management, semistructured data management, use and management of metadata, and Web-based distributed information systems
• **Web Information Retrieval:** automatic cataloging and indexing, conceptual information extraction, multilingual information retrieval, multimedia retrieval, multimodal information retrieval, and ontology-based information retrieval
• **Web Agents:** conversational systems, e-mail filtering and automatic handling, global information foraging, information filtering, navigation guides, recommender systems, remembrance agents, resource intermediary and coordination mechanisms, and semantic Web agents
• **Web Mining and Farming:** data mining and knowledge discovery, learning user profiles, multimedia data mining, text mining, Web-based ontology engineering, Web-based reverse engineering, Web farming, Web-log mining, and Web warehousing
• **Emerging Web Technologies and Infrastructure:** new Web information modeling and query languages, Web intelligence development tools, Web protocols, Wisdom Web, and grid computing

**IAT’03 Topics**

• **Applications:** complex self-organized systems modeling and development, hard computational domains, knowledge and data intensive systems, physically embodied systems, and software and pervasive agents
• **Computational Models, Architecture, and Infrastructure:** agent and multi-agent infrastructures; communication languages; computational architectures; heterogeneity and interoperability; models of perception, rationality, intention, emotion, coordination, action, and social behaviors; multimodal systems and interfaces; ontology models; protocols; scalability; and tools and standards
• **Autonomy-Oriented Computation (AOC) Paradigm:** adaptive computation, autonomous societies, chaotic and fractal dynamics, complex behavior characterization and engineering, emergent behavior, feature characterization and classification, formal theories of complexity and computability, self-organized criticality, and self-organized intelligence
• **Learning and Self-Adapting Agents:** adaptation and self-adaptation; artificial life; behavioral selection; behavioral self-organization; believable lifelike quality; classifier systems; coordinating perception, thought, and action; evolution and learning in dynamic environments; evolutionary computation; integrated exploration and exploitation; and uncertainty management in multi-agent systems
• **Data and Knowledge Management Agents:** adaptation and evolution of knowledge networks, data mining, distributed knowledge systems, heterogeneous data integration and management, human–agent interactions, information filtering, knowledge aggregation, knowledge discovery, knowledge sharing, and reasoning and planning
• **Distributed Intelligence:** coevolution, collective group behavior, coordination and cooperation, distributed intelligence, dynamics of agent groups and populations, efficiency in distributed
systems, formal and computational models, market-based computing, population evolution, social integration, swarms, and grid computing

With the strong support of world-renowned researchers and practitioners from the international WI and IAT communities, the IEEE/WIC Joint Conference has received an overwhelming response compared to any other related conferences this year. WI’03 and IAT’03 received 592 submissions (350 for WI’03 and 242 for IAT’03) from over 48 countries and regions: Australia, Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Croatia, Cuba, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Hong Kong, India, Iran, Ireland, Israel, Italy, Japan, Korea, Kuwait, Malaysia, Mexico, New Zealand, Norway, Poland, Portugal, Russia, Saudi Arabia, Singapore, Slovenia, Spain, Sweden, Switzerland, Taiwan, Thailand, The Netherlands, Tunisia, Turkey, UAE, UK, Uruguay, and USA.

The submitted full-length papers went through a rigorous reviewing process: Each of the 592 submissions was reviewed by at least two program committee members, and the borderline cases were re-reviewed by additional program committee members and by chair(s). As a result, approximately 16% of the 350 WI’03 submissions were accepted as regular papers and 21% of them were accepted as short papers. For IAT’03, around 24% of the 242 submissions were accepted as regular papers and 21% of them were accepted as short papers.

Any successful, high-quality conference requires enormous effort and the expertise of many committed people. Here, we would like to thank the conference co-chairs (Nick Cercone, Ruqian Lu, and Toyoaki Nishida), program co-chairs (Boi Faltings, Matthias Klusch, and Chunnian Liu), industry track chairs (Jianchang Mao, Yiming Ye, and Lizhu Zhou), workshop chairs (Cory Butz, Zhongzhi Shi, and Yiyu Yao), tutorial chairs (Jeffrey Bradshaw and Jinglong Wu), publicity and Web chair Yiu-Ming Cheung, the WI’03 and IAT’03 conference secretariat (Xiaolong Jin), and all of the members of the WI’03 and IAT’03 program committees as well as appointed reviewers for the countless hours they devoted to the conference organization and review activities. Special thanks go to the IEEE-CS-TCCI chair (Xindong Wu), WIC Advisory Board members (Edward A. Feigenbaum, Setsuo Ohsuga, Benjamin Wah, Philip Yu, and L.A. Zadeh), and WIC Technical Committee & WI/IAT Steering Committee members (Nick Cercone, Dieter Fensel, Georg Gottlob, Lakhmi Jain, W. Lewis Johnson, Jianchang Mao, Hiroshi Motoda, Toyoaki Nishida, Xindong Wu, and Yiyu Yao) for their constant support.

The conference Web support team of WIC did a wonderful job putting together and maintaining the home pages for WI’03 and IAT’03 as well as the Cyber-Chair software, an intelligent agent for conference management and communications among conference organizers, program committee members, and authors/attendees.

Last but not the least, we would like to thank all of the authors of submitted papers and the attendees for their contributions and participation. Without their strong support, we could not have a successful conference.

Ning Zhong  
WI’03 and IAT’03 Conference Chair

Jiming Liu  
WI’03 and IAT’03 Program Chair