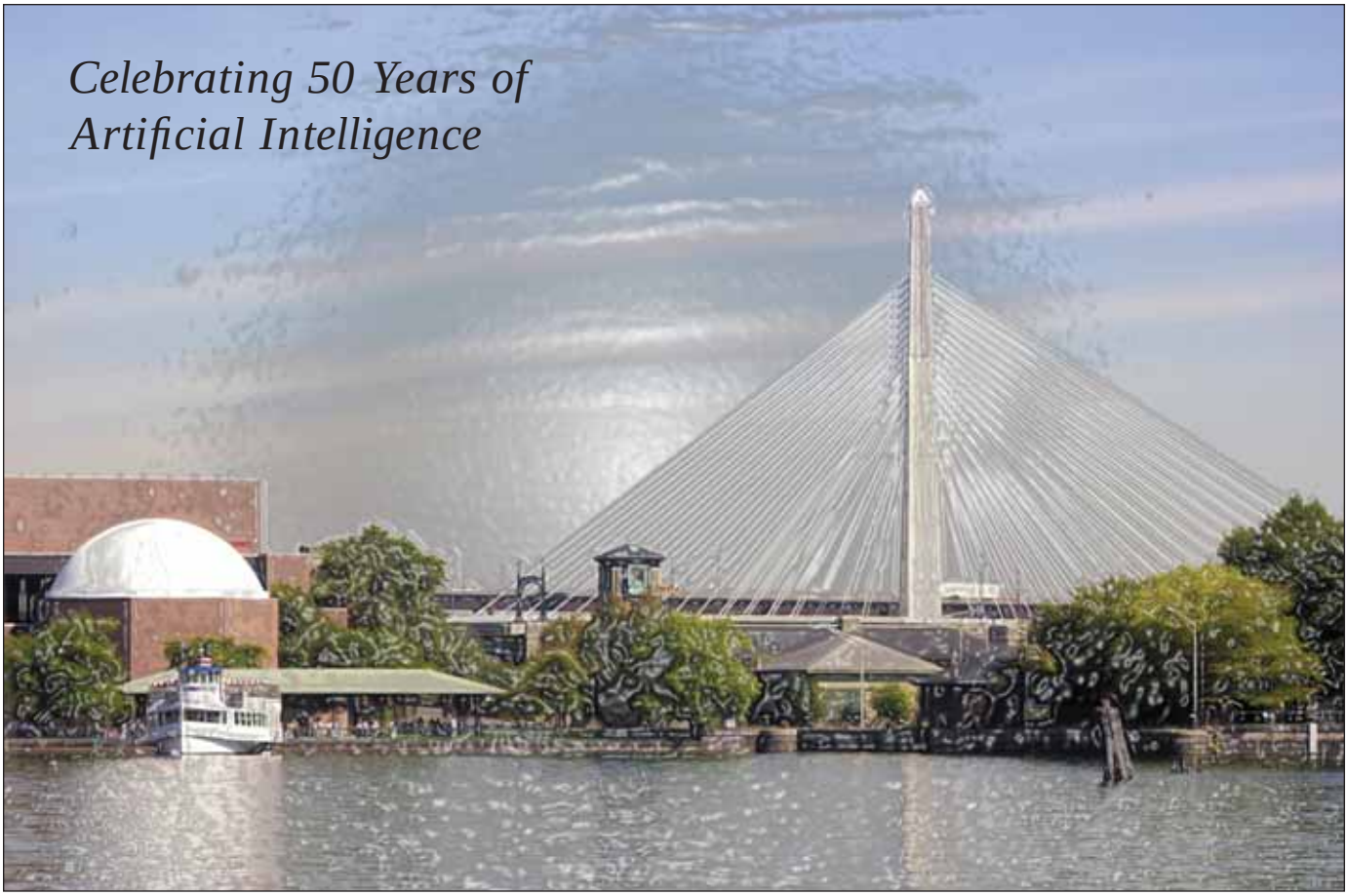

Original photograph courtesy, Boston Convention and Visitor's Bureau

Conference Program

Twenty-First National Conference on Artificial Intelligence (AAAI-06) Eighteenth Conference on Innovative Applications of Artificial Intelligence (IAAI-06)

July 16 – 20, 2006
Seaport Hotel and World Trade Center
Boston, Massachusetts

Sponsored by the
American Association for Artificial Intelligence

Cosponsored by the National Science Foundation, Naval Research Laboratory, Microsoft Research, The Boeing Company, Michael Genesereth, ITA Software, Inc., Google, Intel Corporation, Yahoo! Research, Idaho National Laboratory, IBM Research, Ask Jeeves, Intelligent Information Systems Institute, Cornell University, Teknowledge Corporation, ACM/SIGART, K-Team/RoadNarrows, MobileRobots Inc.
The Defense Advanced Projects Research Agency also provided funds.

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Acknowledgments

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Ken Barker (University of Texas at Austin)

A complete listing of the AAAI-06 and IAAI-06 program committee members appears in the conference proceedings.

Sponsoring Organizations

AAAI gratefully acknowledges the generous contributions of the following organizations to AAAI-06:

- National Science Foundation
- Naval Research Laboratory
- Microsoft Research
- The Boeing Company
- Michael Genesereth
- ITA Software, Inc.
- Google
- Intel Corporation
- Yahoo! Research
- Idaho National Laboratory
- IBM Research
- Ask Jeeves
- Intelligent Information Systems Institute, Cornell University
- Teknowledge Corporation
- ACM/SIGART
- K-Team/RoadNarrows
- MobileRobots Inc.

The Defense Advanced Projects Research Agency also provided funds.

Awards

All AAAI-06, IAAI-06, and AAAI Special Awards will be presented Tuesday, July 18, 8:30 – 9:00 AM, in the Commonwealth Complex on the Harbor Level of the World Trade Center.

AAAI-06 Awards

The AAAI-06 Awards will be presented by program cochairs Yolanda Gil and Raymond C. Mooney.

Outstanding Paper Awards

Model Counting: A New Strategy for Obtaining Good Bounds by Carla P. Gomes, Ashish Sabharwal, and Bart Selman (Cornell University)

Towards an Axiom System for Default Logic by Gerhard Lakemeyer (Aachen University of Technology), and Hector J. Levesque (University of Toronto)

Outstanding Senior Program Committee Member Award

Brian Williams (Massachusetts Institute of Technology)

Outstanding Program Committee Member Awards

Ernie Davis (New York University), and Rosemary Emery-Montemerlo (Stanford University)

IAAI-06 Deployed Applications Awards

The six IAAI-06 Deployed Application Awards will be announced by the IAAI-06 chair Bruce Porter and cochair William Cheetham. Please see the schedule for paper titles. Certificates will be presented during paper sessions.

Robert S. Engelmore Memorial Award and Lecture

The Robert S. Engelmore Award is sponsored by IAAI-06 and *AI Magazine*, and will be presented by Bruce Porter and William Cheetham, IAAI-06 chair and cochair, and David B. Leake, editor-in-chief, *AI Magazine*. The award and lecture was established in 2003 to honor Robert Engelmore's extraordinary service to AAAI, *AI Magazine*, and the AI applications community, and his contributions to applied AI. The 2006 award will be presented to Bruce Buchanan, University

Professor of Computer Science Emeritus (University of Pittsburgh), for leadership in artificial intelligence and pioneering contributions to knowledge-based systems, machine learning, and automated discovery, along with significant applications in medicine, biology and chemistry. The lecture will be held Wednesday, July 19, 4:20 PM, in Harborview II.

AAAI Special Awards

Special awards will be presented by Ronald J. Brachman, Awards Committee chair and AAAI past president, and Alan Mackworth, AAAI president.

Classic Paper Award

The 2006 AAAI Classic Paper Award will be given jointly to the authors of two papers considered to be the most influential from the Sixth National Conference on Artificial Intelligence, held in 1987 in Seattle, Washington.

The 2006 award winners are Philip E. Agre and David Chapman for *Pengi: An Implementation of a Theory of Activity* and Michael P. Georgeff and Amy L. Lansky for *Reactive Reasoning and Planning.*

The authors of two additional papers have received honorable mention, including Richard E. Korf for *Real-Time Heuristic Search: First Results* and Judea Pearl and Thomas Verma for *The Logic of Representing Dependencies by Directed Graphs.*

Distinguished Service Award

The AAAI Distinguished Service Award recognizes one individual each year for extraordinary service to the AI community. The 2006 award winner is Edward Feigenbaum (Kumagai Professor of Computer Science and Coscientific Director, Knowledge Systems Laboratory, Stanford University) for a lifetime of service to artificial intelligence as a tireless and effective champion of the field, including seminal contributions to the theory and practice of knowledge-based systems, coeditorship of the first major collection of AI papers, mentorship of numerous leading AI researchers, facilitation of the commercialization of AI technology, and service to the AI and computer science communities in many key leadership roles, including president of AAAI and chief scientist of the US Air Force.

General Game Playing Competition

The AAAI General Game Playing Competition is designed to test the abilities of general game playing systems by comparing their performance on a variety of games. The competition will consist of two phases: a qualification round and a runoff competition during AAAI. A $10,000 award will be presented to the winning entrant. AAAI gratefully acknowledges the generous contribution of Michael Genesereth, who has made this award possible. The Award will be presented by Michael Genesereth, Competition Chair.

Keynote Address

Tim Berners-Lee (Director, World Wide Web Consortium)

Tuesday, July 18, 9:00 – 10:00 AM

Commonwealth Complex, World Trade Center

The relationship between AI and the semantic web has been something that has provoked a lot of heated corridor discussion over the years. This talk will try to outline what the semantic web is and is not, at a conference where there may be some anniversary reflection on what AI is and is not. It is not always obvious how to transfer existing AI techniques into a fractal weblike space, or what the effect will be. But it is certainly exciting.

A graduate of Oxford University, England, Berners-Lee now holds the 3Com Founders chair at the Laboratory for Computer Science and Artificial Intelligence Lab (CSAIL) at the Massachusetts Institute of Technology (MIT), where he leads the Decentralized Information group (DIG). He directs the World Wide Web Consortium, an open forum of companies and organizations with the mission to lead the Web to its full potential. With a background of system design in real-time communications and text processing software development, in 1989 he invented the World Wide Web, an internet-based hypermedia initiative for global information sharing, while working at CERN, the European Particle Physics Laboratory. He wrote the first web client (browser-editor) and server in 1990.

2006 AAAI Fellows Recognition Dinner

Each year, the American Association for Artificial Intelligence recognizes a small number of members who have made significant sustained contributions to the field of artificial intelligence, and who have attained unusual distinction in the profession. AAAI is pleased to announce the seven newly elected Fellows for 2006:

Fahiem Bacchus (University of Toronto)
Craig Boutilier (University of Toronto)
Anthony G. Cohn (University of Leeds)
Gregory F. Cooper (University of Pittsburgh)
Jude W. Shavlik (University of Wisconsin)
Oliviero Stock (ITC-IRST)
Sebastian Thrun (Stanford University)

New and Special Programs

AAAI-06 will include several new and special programs as AI celebrates the 50th anniversary of the Dartmouth Conference. The program chairs have added two special tracks to the technical program — AI & the Web and Integrated Intelligent Capabilities — which will run consecutively in the Cityview I room in the World Trade Center, July 18-19. AAAI Senior Member papers and Nectar papers (new scientific and technical advances in research) have been integrated into the technical program schedule throughout the conference, and AAAI members will present posters during the poster session on Wednesday evening, July 19.

AAAI Fellows 50th Anniversary Panel

A special Fellows 50th Anniversary Panel will be held Tuesday, July 18, 5:30 – 6:30 pm in the Commonwealth Complex of the World Trade Center.

Open Scientific Questions Blog

Please take a moment to visit this exhibit in the registration area on the upper level of the World Trade Center. An offshoot of the recent AAAI Fellows Symposium, AAAI-06 conference attendee feedback will be solicited regarding open scientific questions that will help shape the next 50 years of research in AI.

AAAI Fellow / Student Lunches

A small number of students will have the opportunity to chat with a AAAI Fellow over an informal lunch during the conference. For more information, check out the Student Activities site described below.

Opening Reception

The AAAI-06 Opening Reception will be held Monday, July 17, 6:00 – 7:00 PM in the Plaza Ballroom of the Seaport Hotel. This event will provide the traditional opportunity for attendees to socialize in a relaxed setting prior to the beginning of the first day of technical sessions. A variety of

Workshop Program

All workshop participants must register for the AAAI-06 technical program and pay the supplemental workshop fee. Workshops will be held in the World Trade Center (WTC) and Seaport Hotel. All workshops are one full day unless noted otherwise.

Sunday, July 16

W1: AI-Driven Technologies for Services-Oriented Computing. *Organizers:* Prashant Doshi, Richard Goodwin, and Amit Sheth. 8:45 AM – 5:15 PM, Waterfront I, Harbor Level, WTC

W4: Cognitive Robotics (1.5 days). *Organizers:* Michael Beetz, Kanna Rajan, Michael Thielscher, and Radu Bogdan Rusu. 8:30 AM – 6:00 PM, Seaport A, Mezzanine Level.

W5: Computational Aesthetics: Artificial Intelligence Approaches to Beauty and Happiness. *Organizers:* Hugo Liu and Rada Mihalcea. 8:45 AM – 5:40 PM, Cityview I, Upper Level, WTC

W8: Event Extraction and Synthesis. *Organizers:* Naveen Ashish, Doug Appelt, Dayne Freitag, and Dmitry Zelenko. 9:15 AM – 5:30 PM, North End Complex, Harbor Level, WTC

W11: Intelligent Techniques for Web Personalization. *Organizers:* Bamshad Mobasher and Sarabjot Singh Anand. Cambridge Complex, Harbor Level, WTC

W12: Learning for Search. *Organizers:* Wheeler Ruml and Frank Hutter. 8:45 AM – 6:00 PM, Harborview II, Upper Level, WTC

W13: Modeling and Retrieval of Context (2 days). *Organizers:* Thomas R. Roth-Berghofer, Stefan Schulz, and David B. Leake. 8:45 AM – 6:00 PM, Seaport C, Mezzanine Level.

Monday, July 17

W2: Auction-Based Robot Coordination. *Organizers:* Bernardine Dias, Sven Koenig and Michail G. Lagoudakis. 8:30 AM – 6:00 PM, Cityview I, Upper Level, WTC

W3: Cognitive Modeling and Agent-Based Social Simulation. *Organizers:* M. Afzal Upal and Ron Sun. 1:50 PM – 6:00 PM, Back Bay I, Mezzanine Level, WTC

W4: Cognitive Robotics *(Continued from Sunday),* 8:30 AM – 2:00 PM, Seaport A, Mezzanine Level.

W6: Educational Data Mining. *Organizers:* Joseph E. Beck, Esma Aimeur, and Tiffany Barnes. 8:30 AM – 6:00 PM, Seaport B, Mezzanine Level.

W7: Evaluation Methods for Machine Learning. *Organizers:* Chris Drummond, William Elazmeh, and Nathalie Japkowicz. 9:00 AM – 5:45 PM, Back Bay II, Mezzanine Level, WTC

W9: Heuristic Search, Memory-Based Heuristics and Their Applications. *Organizers:* Ariel Felner, Robert C. Holte, and Hector Geffner. 8:30 AM – 5:45 PM, Harborview II, Upper Level, WTC

W10: Human Implications of Human-Robot Interaction. *Organizer:* Ted Metzler. 8:35 am – 3:30 PM, Waterfront I, Harbor Level, WTC

W13: Modeling and Retrieval of Context *(Continued from Sunday).* 9:15 AM – 4:30 PM, Seaport C, Mezzanine Level

W14: Modeling Others from Observations. *Organizers:* Gal Kaminka, David Pynadath, and Christopher Geib, 8:30 AM – 1:15 PM, Back Bay, Mezzanine Level, WTC

W17: Statistical and Empirical Approaches for Spoken Dialog Systems. *Organizers:* Pascal Poupart, Stephanie Seneff, Jason Williams, and Steve Young, 9:00 AM – 5:30 PM, Cambridge Complex, Harbor Level, WTC

Thursday, July 20

The Mobile Robot Workshop. *Chair:* Bob Avanzato. 10:00 AM – 4:00 PM, Plaza A, Plaza Level, Seaport Hotel.

hors d'oeuvres and a no-host bar will be available. Admittance to the reception is free to AAAI-06 registrants. A $40.00 per person fee ($10.00 for children) will be charged for spouses and other nontechnical conference registrants.

AAAI-06 Poster & Demonstration Session

A conference-wide poster and demonstration session will be held on Wednesday, July 19, 5:30 – 9:30 PM and will feature AAAI-06 Technical Posters, Nectar Posters, AAAI Member Abstracts, Student Abstracts, Doctoral Consortium Abstracts, and Intelligent Systems Demonstrations. (For a complete listing of posters, please refer to page 14.) The accompanying reception will include a light dinner buffet and a no-host bar. Admittance to the reception is free to AAAI-06 registrants. A $30.00 per person fee ($10.00 for children) will be charged for spouses and other nontechnical conference registrants.

AAAI/SIGART Doctoral Consortium

The Eleventh AAAI/SIGART Doctoral Consortium program will be held on Sunday, July 16, 8:45 AM – 5:30 PM, and Monday, July 17, 9:00 AM – 5:40 PM in the Constitution Room on the mezzanine level of the Seaport Hotel. The Doctoral Consortium provides an opportunity for a group of Ph.D. students to discuss and explore their research interests and career objectives in an interdisciplinary workshop together with a panel of established researchers. The thirteen students accepted to participate in this program, as well as several other DC-06 applicants, will participate in the Poster Session on Wednesday evening. All interested AAAI-06 student registrants are invited to observe the presentations and participate in discussions at the workshop. AAAI and SIGART gratefully acknowledge grants from the National Science Foundation, Google Inc. and Microsoft that provide partial funding for this event.

Student Blog & Forums

AAAI06blog is a student run blog that will describe and document AAAI-06 and IAAI-06 from a student's perspective. A small group of student bloggers attending the conferences will post daily items at aaai06.blogspot.com describing their observations, experiences, reactions, thoughts and questions. Pictures from the conference will be uploaded to the linked photo blog. Other students attending AAAI are welcome to participate by adding their own observations via comments attached to posts and photographs. In addition, several student-run forums are available via the AAAI-06 Student Activities website at pegasus2.isi.edu/aaai06-studentinfo/.

Fifth Americas School on Agents and Multiagent Systems

The Fifth Americas School on Agents and Multiagent Systems will be held July 14 - 17 at Harvard University and The Seaport

Morning	Afternoon	Evening
	Sunday, July 16	
Registration Tutorial Forum Workshops AAAI/SIGART DC	Registration Tutorial Forum Workshops AAAI/SIGART DC	
	Monday, July 17	
Registration Tutorial Forum Workshops AAAI/SIGART DC Game Playing Competitition Poker Tournament	Registration Tutorial Forum Workshops AAAI/SIGART DC AAAI Business Meeting Game Playing Competition Poker Tournament	Opening Reception
	Tuesday, July 18	
Registration AAAI-06 Keynote Address AAAI-06 & IAAI-06 Game Playing Competition Poker Tournament Exhibits & Robots	Registration IAAI-06 Invited Talk AAAI-06 & IAAI-06 Game Playing Competition Poker Tournament Exhibits & Robots	Fellows Panel
	Wednesday, July 19	
Registration Invited Talks AAAI-06 & IAAI –06 Game Playing Competition Poker Tournament Exhibits & Robots	Registration Engelmore Lecture AAAI-06 & IAAI –06 Game Playing Competition Poker Tournament Exhibits & Robots	Posters & IS Demos and Reception Robot Finals
	Thursday, July 20	
Registration AAAI-06 Invited Talks Exhibits	AAAI-06 / IAAI-06 Robot Workshop	

Tutorial Forum

AAAI-06 technical registrants may attend up to four consecutive tutorials and receive one copy of the comprehensive AAAI-06 Tutorial Forum Notes for an additional registration fee. Tutorial attendees may redeem their tutorial syllabi tickets at the proceedings distribution area. All tutorials will be held in the World Trade Center.

I: Sunday, July 16

9:00 AM – 1:00 PM

SA1: **Auction-Based Agent Coordination,** M. Bernardine Dias, Gil Jones, Nidhi R. Kalra, Pinar Keskinocak, Sven Koenig, Michail G. Lagoudakis, and Robert Zlot (Cityview II, Upper Level)

SA2: **Case-Based Reasoning: Theory and Application,** Cynthia Marling and William Cheetham (Harborview I, Upper Level)

SA3: **Computational Biology: Perspective and Approaches Based on Feature Extraction and Selection,** Weixiong Zhang (Federal Complex, Mezzanine Level)

9:00 AM – 6:00 PM

SAP4: **Getting the Most from ResearchCyc,** Larry Lefkowitz, Michael Witbrock, and Keith Goolsbey (Back Bay I, Mezzanine Level)

SAP5: **USARSim and MOAST: Advanced Tools for High-Fidelity Simulation of Distributed Robot Systems,** Stephen Balakirsky, Mike Lewis, and Stefano Carpin (Back Bay II, Mezzanine Level)

II: Sunday, July 16

2:00 – 6:00 PM

SP1: **Constraint-Based Local Search,** Laurent Michel and Pascal Van Hentenryck (Cityview II, Upper Level)

SP2: **State-Space Traversal Techniques for AI Planning,** Jussi Rintanen (Harborview I, Upper Level)

SP3: **Trading Agent Design and Analysis,** Michael P. Wellman (Federal Complex, Mezzanine Level)

III: Monday, July 17

9:00 AM – 1:00 PM

MA1: **The Art and Science of Action Programming Languages,** Michael Thielscher (Cityview II, Upper Level)

MA2: **Scenario-based Design of User Interfaces: Theory from AI and Application in HCI,** Hermann Kaindl (Harborview I, Upper Level)

9:00 AM – 6:00 PM

MAP3: **Empirical Methods for Artificial Intelligence,** Paul Cohen (North End Complex, Harbor Level)

MAP4: **Semantic Web Services,** Michael Stollberg, Emilia Cimpian, Liliana Cabral, and John Domingue (Waterfront II, Harbor Level)

MAP5: **Temporal and Resource Reasoning for Planning, Scheduling and Execution,** Nicola Muscettola and Martha E. Pollack (Waterfront III, Harbor Level)

IV: Monday, July 17

2:00 – 6:00 PM

MP1: **Intelligent User Interfaces: An Introduction,** Mark T. Maybury (Cityview II, Upper Level)

MP2: **Language Independent Methods of Clustering Similar Contexts** (with applications), Ted Pedersen (Harborview I, Upper Level)

Hotel and World Trade Center. This program is aimed at orienting new graduate students in the field of Agents and Multiagent Systems. The program will consists of two days of lectures by internationally recognized researchers in Agents and Multiagent Systems, followed by two days of AAAI-06 tutorials. The Americas Program Chairs are Roger Mailler, SRI International and David Sarne, Harvard University. Sponsored by the International Foundation for Multiagent Systems (IFMAS) and the American Association for Artificial Intelligence (AAAI).

Invited Talks & Panels

All invited talks will be held in the World Trade Center.

Tuesday, July 18

AAAI-06 Keynote Address

AI and the Semantic Web

Tim Berners-Lee (World Wide Web Consortium). Commonwealth Complex, Harbor Level, 9:00 – 10:00 AM (see page 3)

IAAI-06 Invited Talk

Winning the DARPA Grand Challenge

Sebastian Thrun (Stanford University). Commonwealth Complex, Harbor Level, 1:50 – 2:50 PM

The DARPA Grand Challenge was the most significant event in the field of robotics in more than a decade. A mobile ground robot had to traverse 132 miles of punishing desert terrain in less than ten hours. In 2004, the best robot only made 7.3 miles. A year later, Stanford won this historical challenge and cashed the $2M prize. This talk, delivered by the leader of the Stanford Racing Team, will provide insights into the software architecture of Stanford's winning robot "Stanley." The robot heavily relied on advanced sensor technology, and advanced artificial intelligence to make sense out of the massive amounts of sensor data acquired by the vehicle. The talk will introduce you into the fascinating world of autonomous robotics, share with you many of the race insights, and discuss with you some of the implications for the future of our society.

AAAI Fellows 50th Anniversary Panel

Commonwealth Complex, Harbor Level, 5:30 – 6:30 PM.

Wednesday, July 19

AAAI-06 Invited Talk

Developing an Intelligent Personal Assistant: The CALO Project

Karen Myers, (SRI International). Amphitheater, Mezzanine Level, 9:00 – 10:00 AM

Knowledge workers today must juggle a range of tasks and responsibilities while maintaining awareness of deadlines, resources and events that could impact objectives. I will describe a collaboration by a team of 25 organizations to produce an intelligent personal assistant for improving the productivity of such workers. This assistant, called CALO (cognitive as-

sistant that learns and organizes), both performs tasks on its user's behalf and assists with the filtering, organization, and preparation of information. CALO is seeded with default problem-solving knowledge but learns to expand and improve its capabilities over time by observing and interacting with its user.

AAAI-06 Invited Talk

Global Inference and Learning: Towards Natural Language Understanding

Dan Roth (University of Illinois at Urbana-Champaign). Cityview I, Upper Level, 9:00 – 10:00 AM

The maturity of machine learning techniques allows us today to learn many low level natural language predicates and generate an appropriate vocabulary over which reasoning methods can be used to make significant progress in natural language understanding. I will describe research on a framework that combines learning and inference. Our Inference with Classifiers approach allows the output of local classifiers for different problem components to be assembled into a whole that reflects global preferences and constraints. Examples will be drawn from "wh" attribution in natural language processing (determining who did what to whom when and where) and textual entailment (determining whether one utterance is a likely consequence of another).

IAAI-06 Invited Talk

Electrifying Knowledge Work: 362 Innovative Applications of Artificial Intelligence 1989 – 2006

Neil Jacobstein (Teknowledge Corporation). Harborview II, Upper Level, 10:20–11:20 AM. Early stage artificial intelligence has already produced a wide range of valuable applications in industry and government. Many of these applications have performed complex tasks such as planning, monitoring, design, risk assessment, diagnosis, training, process control, classification, and analysis. AAAI's Innovative Applications of AI Conference has published over 360 successful applications of AI in fields as diverse as biotechnology, space flight, manufacturing, security, paleontology, construction, energy, music, military, intelligence, banking, telecommunications, news media, management, law, emergency services, agriculture, treaty verification, and many others. This talk will review the patterns that connect these applications over 18 years of the IAAI conference: what worked, what didn't, and what were the key trends. None of these systems exhibited general intelligence, but each documented our ability to codify and distribute human problem solving knowledge, and put it to work.

Robert S. Engelmore Memorial Lecture

What Do We Know About Knowledge?

Bruce G. Buchanan (University Professor of Computer Science Emeritus, University of Pittsburgh). Harborview II, Upper Level, 4:20 – 5:20 PM

Intelligent systems need knowledge. However, the simple equation "knowledge is power" leaves three major questions unanswered. First what do we mean by "knowledge," second, what do we mean by "power," and third, what do we mean by "is?" In this talk Buchanan will examine these questions. In particular he will focus on some of the milestones in understanding the nature of knowledge and some of what we have learned from fifty years of AI. The discipline and detail required to write programs that use knowledge have given us some valuable lessons for implementing the knowledge principle. But there are still interesting challenges ahead.

Thursday, July 20

AAAI-06 Invited Talk

Unifying Logical and Statistical AI

Pedro Domingos (University of Washington). Amphitheater, Mezzanine Level, 9:00 – 10:00 AM

Intelligent agents must be able to handle the complexity and uncertainty of the real world. Logical AI has focused mainly on the former, and statistical AI on the latter. Markov logic combines the two by attaching weights to first-order formulas and viewing them as templates for features of Markov networks. Inference algorithms for Markov logic draw on ideas from satisfiability, Markov chain Monte Carlo and knowledge-based model construction. Learning algorithms are based on the voted perceptron and inductive logic programming. Markov logic has been successfully applied to problems in entity resolution, link prediction, information extraction and others, and is the basis of the open-source Alchemy system.

AAAI-06 Invited Talk

Cognitive Tutors and Opportunities for Convergence of Human and Machine Learning Theory

Ken Koedinger (Carnegie Mellon University). Cityview I, Upper Level, 9:00 – 10:00 AM.

Cognitive tutors are computer-based intelligent tutors that are based on cognitive psychology theory and employ artificial intelligence methods. Cognitive tutors have led to significant improvements in student learning and are now in regular use in mathematics classrooms in over 2,000 schools across the country. They have also been an important basic research vehicle to test and advance both psychology and AI theory. Besides illustrating this important application of AI, I will also discuss how we have diverged from a time when theoretical explorations of machine and human learning were more closely aligned and how it is now time reconvene and to fruitfully compare and contrast the independent theoretical advances both fields have made.

Special Meetings

AAAI Business Meeting

The AAAI Annual Business Meeting will be held Monday, July 17, 12:45 – 1:15 pm, Seaport B, Seaport Hotel

AAAI Conference Committee Meeting

The Conference Committee Meeting will be held Thursday, July 19, 7:45 – 8:45 AM, 16th Floor Boardroom, Seaport Hotel

AAAI Publications Committee Meeting

The Publications Committee Meeting will be held Wednesday, July 19, 12:30 – 1:50 PM, Aura Restaurant, Seaport Hotel

***AI Magazine* Editorial Board Meeting**

The AI Magazine Editorial Board Meeting will be held Tuesday, July 18, 12:30 – 2:00 PM, 16th Floor Boardroom, Seaport Hotel

Executive Council Meeting

The AAAI Executive Council Meeting will be held Monday, July 17, 9:00 am – 5:00 PM, 16th Floor Boardroom, Seaport Hotel. Continental breakfast will be available at 8:30 AM.

Strategic Planning Committee Meeting

The AAAI Strategic Planning Committee Meeting will be held Wednesday, July 19, 7:30 – 9:00 AM, 16th Floor Boardroom, Seaport Hotel.

	Seaport B&C	Harborview I (WTC)	Cityview II (WTC)
Plenary	8:30 - 9:00 AM: **AAAI-06 Welcome and Opening Remarks** and Paper Award Presentations, *Yolanda Gil and Raymond Mooney*, Commonwealth Complex, Harbor Level, WTC **IAAI-06 Welcome,** Robert S. Engelmore Memorial Award, and Deployed Application Award Announcements, *Bruce Porter, William Cheetham and David B. Leake* **AAAI Special Award Presentations,** *Ron Brachman and Alan Mackworth*, Commonwealth Complex, Harbor Level, WTC 9:00 - 10:00 AM: **AAAI-06 Keynote Address:** *AI and the Semantic Web, Tim Berners-Lee; Introduction by Yolanda Gil*, Commonwealth Complex, Harbor Level, WTC		
10:20 – 11:20 AM	**Machine Learning I** *Chair: Weixiong Zhang* Active Learning with Near Misses, *Nela Gurevich, Shaul Markovitch, and Ehud Rivlin* *Senior:* Towards Chemical Universal Turing Machines, *Stephen Muggleton* *Nectar:* Activity-Centric Email: A Machine Learning Approach, *Nicholas Kushmerick, Tessa Lau, Mark Dredze, and Rinat Khoussainov*	**Multiagent Systems I** *Chair: Shlomo Zilberstein* Analysis of Privacy Loss in Distributed Constraint Optimization, *Rachel Greenstadt, Jonathan P. Pearce, and Milind Tambe* A New Approach to Distributed Task Assignment using Lagrangian Decomposition and Distributed Constraint Satisfaction, *Katsutoshi Hirayama* Algorithms for Rationalizability and CURB Sets, *Michael Benisch, George Davis, and Tuomas Sandholm*	**Planning** *Chair: Jussi Rintanen* *Senior:* Deconstructing Planning as Satisfiability, *Henry Kautz* Factored Planning: How, When, and When Not, *Ronen I. Brafman and Carmel Domshlak* A Modular Action Description Language, *Vladimir Lifschitz and Wanwan Ren*
11:30 – 12:30 PM	**Machine Learning II** *Chair: Rich Caruana* An Efficient Algorithm for Local Distance Metric Learning, *Liu Yang, Rong Jin, Rahul Sukthankar, and Yi Liu* Efficient L_1 Regularized Logistic Regression, *Su-In Lee, Honglak Lee, Pieter Abbeel, and Andrew Y. Ng* *Senior:* Knowledge Infusion, *Leslie G. Valiant*	**Multiagent Systems II** *Chair: Jeff Rosenschein* Overlapping Coalition Formation for Efficient Data Fusion in Multi-Sensor Networks, *Viet Dung Dang, Rajdeep K. Dash, Alex Rogers, and Nicholas R. Jennings* Multiparty Proactive Communication: A Perspective for Evolving Shared Mental Models, *Kaivan Kamali, Xiaocong Fan, and John Yen* From Centralized to Distributed Selective Overhearing, *Gery Gutnik and Gal A. Kaminka*	**Planning: Plan Recognition** *Chair: Sven Koenig* Sensor-Based Understanding of Daily Life via Large-Scale Use of Common Sense, *William Pentney, Ana-Maria Popescu, Shiaokai Wang, Henry Kautz, and Matthai Philipose* Fast Hierarchical Goal Schema Recognition, *Nate Blaylock and James Allen* Reasoning about Partially Observed Actions, *Megan Nance, Adam Vogel, and Eyal Amir*
1:50 – 2:50 PM	**Machine Learning: Case-Based Reasoning and Analogy** *Chair: David Aha* *Nectar:* Progress in Textual Case-Based Reasoning: Predicting the Outcome of Legal Cases from Text, *Stefanie Brüninghaus and Kevin D. Ashley* *Nectar:* Optimizing Similarity Assessment in Case-Based Reasoning, *Armin Stahl and Thomas Gabel* Strategy Variations in Analogical Problem Solving, *Tom Y. Ouyang and Kenneth D. Forbus*	**Human Computer Interaction & Cognitive Modeling: Life-Like Characters & Music** *Chair: Bryan Loyall* Using Anticipation to Create Believable Behavior, *Carlos Martinho and Ana Paiva* *Senior:* Virtual Humans, *William R. Swartout* *Nectar:* TempoExpress: An Expressivity-Preserving Musical Tempo Transformation System, *Maarten Grachten, Josep-Lluís Arcos, and Ramon López de Mántaras*	**Planning: Robust Planning** *Chair: David E. Wilkins* Contingent Planning with Goal Preferences, *Dmitry Shaparau, Marco Pistore, and Paolo Traverso* Exploration of the Robustness of Plans, *Maria Fox, Richard Howey, and Derek Long* Robust Execution on Contingent, Temporally Flexible Plans, *Stephen A. Block, Andreas F. Wehowsky, and Brian C. Williams*
3:00 – 4:00 PM	**Machine Learning: Decision Trees & Association Rules** *Chair: Robert C. Holte* Minimum Description Length Principle: Generators Are Preferable to Closed Patterns, *Jinyan Li, Haiquan Li, Limsoon Wong, Jian Pei, and Guozhu Dong* *Nectar:* When a Decision Tree Learner Has Plenty of Time, *Saher Esmeir and Shaul Markovitch* Anytime Induction of Decision Trees: An Iterative Improvement Approach, *Saher Esmeir and Shaul Markovitch*	**Human Computer Interaction & Cognitive Modeling: Intelligent User Interfaces** *Chair: Jon Herlocker* Evaluating Preference-based Search Tools: A Tale of Two Approaches, *Paolo Viappiani, Boi Faltings, and Pearl Pu* Extracting Knowledge about Users' Activities from Raw Workstation Contents, *Tom M. Mitchell, Sophie H. Wang, Yifen Huang, and Adam Cheyer* *Nectar:* Lessons on Applying Automated Recommender Systems to Information-Seeking Tasks, *Joseph A. Konstan, Sean M. McNee, Cai-Nicolas Ziegler, Roberto Torres, Nishikant Kapoor, and John T. Riedl*	**Planning under Uncertainty** *Chair: David E. Smith* Compiling Uncertainty Away: Solving Conformant Planning Problems using a Classical Planner (Sometimes), *Héctor Palacios and Héctor Geffner* Probabilistic Temporal Planning with Uncertain Durations, *Mausam and Daniel S. Weld* PPCP: Efficient Probabilistic Planning with Clear Preferences in Partially-Known Environments, *Maxim Likhachev and Anthony Stentz*
4:20 – 5:20 PM	**Machine Learning: Dimensionality Reduction** *Chair: Weixiong Zhang* Tensor Embedding Methods, *Guang Dai and Dit-Yan Yeung* *Nectar:* Embedding Heterogeneous Data Using Statistical Models, *Amir Globerson, Gal Chechik, Fernando Pereira, and Naftali Tishby* *Nectar:* An Introduction to Nonlinear Dimensionality Reduction by Maximum Variance Unfolding, *Kilian Q. Weinberger and Lawrence K. Saul*	**Model-Based Systems** *Chair: Johan de Kleer* A Causal Analysis Method for Concurrent Hybrid Automata, *Michael W. Hofbaur and Franz Wotawa* Approximate Compilation for Embedded Model-based Reasoning, *Barry O'Sullivan and Gregory M. Provan* A Two-Step Hierarchical Algorithm for Model-Based Diagnosis, *Alexander Feldman and Arjan van Gemund*	**Perception & Cognition** *Chair: Benjamin Kuipers* Self-Supervised Acquisition of Vowels in American English, *Michael H. Coen* *Senior:* Multimodal Cognitive Architecture: Making Perception More Central to Intelligent Behavior, *B. Chandrasekaran* *Nectar:* Laughing with HAHAcronym, a Computational Humor System, *Oliviero Stock and Carlo Strapparava*
Evening	**Panel Presentation** 5:30–6:30 PM **AAAI Fellows 50th Anniversary Panel** Commonwealth Complex, World Trade Center		

Seaport A	Cityview I (WTC)	Harborview II (IAAI)

Coffee breaks will be held at 10:00 – 10:20 AM and 4:00 – 4:20 PM. The lunch break will be held from 12:30 – 1:50 PM.

Natural Language I

Chair: Shaul Markovitch

Corpus-based and Knowledge-based Measures of Text Semantic Similarity, *Rada Mihalcea, Courtney Corley, and Carlo Strapparava*

Learning Noun-Modifier Semantic Relations with Corpus-based and WordNet-based Features, *Vivi Nastase, Jelber Sayyad-Shirabad, Marina Sokolova, and Stan Szpakowicz*

Negation, Contrast and Contradiction in Text Processing, *Sanda Harabagiu, Andrew Hickl, and Finley Lacatusu*

AI & the Web: Collaborative Filtering

Chair: Sofus Macskassy

Model-Based Collaborative Filtering as a Defense against Profile Injection Attacks, *Bamshad Mobasher, Robin Burke, and J. J. Sandvig*

Bookmark Hierarchies and Collaborative Recommendation, *Ben Markines, Lubomira Stoilova, and Filippo Menczer*

Mixed Collaborative and Content-Based Filtering with User-Contributed Semantic Features, *Matthew Garden and Gregory Dudek*

IAAI-06: Knowledge-Based Systems

Chair: Neil Jacobstein

Deployed Application: Case-Based Reasoning for General Electric Appliance Customer Support, *William Cheetham*

Emerging Application: Heuristic Search and Information Visualization Methods for School Redistricting, *Marie desJardins, Blazej Bulka, Ryan Carr, Andrew Hunt, Priyang Rathod, and Penny Rheingans*

Natural Language II

Chair: Dayne B. Freitag

Nectar: Opinion Extraction and Summarization on the Web, *Minqing Hu and Bing Liu*

Proposing a New Term Weighting Scheme for Text Categorization, *Man Lan, Chew-Lim Tan, and Hwee-Boon Low*

Nectar: Beyond Bags of Words: Modeling Implicit User Preferences in Information Retrieval, *Donald Metzler and W. Bruce Croft*

AI & the Web: Trust & Security

Chair: Biplav Srivastava

Trust Representation and Aggregation in a Distributed Agent System, *Yonghong Wang and Munindar P. Singh*

Social Network-based Trust in Prioritized Default Logic, *Yarden Katz and Jennifer Golbeck*

Using Semantic Web Technologies for Policy Management on the Web, *Lalana Kagal, Tim Berners-Lee, Dan Connolly, and Daniel Weitzner*

IAAI-06: Data Mining

Chair: Ted Senator

Deployed Application: Predicting Electricity Distribution Feeder Failures Using Machine Learning Susceptibility Analysis, *Philip Gross, Albert Boulanger, Marta Arias, David Waltz, Philip M. Long, Charles Lawson, Roger Anderson, Matthew Koenig, Mark Mastrocinque, William Fairechio, John A. Johnson, Serena Lee, Frank Doherty, and Arthur Kressner*

Emerging Application: A Sequential Covering Evolutionary Algorithm for Expressive Music Performance, *Rafael Ramirez, Amaury Hazan, Jordi Mariner, and Esteban Maestre*

Natural Language III

Chair: Ted Pedersen

Senior: Machine Reading, *Oren Etzioni, Michele Banko, and Michael J. Cafarella*

Nectar: A Look at Parsing and Its Applications, *Matthew Lease, Eugene Charniak, Mark Johnson, and David McClosky*

Societal Grounding Is Essential to Meaningful Language Use, *David DeVault, Iris Oved, and Matthew Stone*

AI & the Web: Ontologies

Chair: Vinay K. Chaudhri

OntoSearch: A Full-Text Search Engine for the Semantic Web, *Xing Jiang and Ah-Hwee Tan*

Towards Modeling Threaded Discussions using Induced Ontology Knowledge, *Donghui Feng, Jihie Kim, Erin Shaw, and Eduard Hovy*

Inexact Matching of Ontology Graphs Using Expectation-Maximization, *Prashant Doshi and Christopher Thomas*

IAAI-06 Invited Talk

Winning the DARPA Grand Challenge, *Sebastian Thrun*, introduced by *Bruce Porter*

Commonwealth Complex, WTC

Knowledge-Based Systems

Chair: Michael Witbrock

Merging Stratified Knowledge Bases under Constraints, *Guilin Qi, Weiru Liu, and David A. Bell*

Nectar: Large Scale Knowledge Base Systems: An Empirical Evaluation Perspective, *Yuanbo Guo, Abir Qasem, and Jeff Heflin*

A Unified Knowledge Based Approach for Sense Disambiguation and Semantic Role Labeling, *Peter Z. Yeh, Bruce Porter, and Ken Barker*

AI & the Web: Using the Web as a Knowledge Source

Chair: Brian Milch

Overcoming the Brittleness Bottleneck using Wikipedia: Enhancing Text Categorization with Encyclopedic Knowledge, *Evgeniy Gabrilovich and Shaul Markovitch*

WikiRelate! Computing Semantic Relatedness Using Wikipedia, *Michael Strube and Simone Paolo Ponzetto*

Organizing and Searching the World Wide Web of Facts - Step One: The One-Million Fact Extraction Challenge, *Marius Pasca, Dekang Lin, Jeffrey Bigham, Andrei Lifchits, and Alpa Jain*

IAAI-06: Biomedical Applications 1

Chair: Elaine Rich

Emerging Application: Visual Explanation of Evidence with Additive Classifiers, *Brett Poulin, Roman Eisner, Duane Szafron, Paul Lu, Russ Greiner, D. S. Wishart, Alona Fyshe, Brandon Pearcy, Cam MacDowell , and John Anvik*

Emerging Application: MedEthEx: A Prototype Medical Ethics Advisor, *Michael Anderson, Susan Leigh Anderson, and Chris Armen*

Information Integration

Chair: Eyal Amir

Compilation of Query-Rewriting Problems into Tractable Fragments of Propositional Logic, *Yolifé Arvelo, Blai Bonet, and María Esther Vidal*

Nectar: Supporting Queries with Imprecise Constraints, *Ullas Nambiar and Subbarao Kambhampati*

Classification Spanning Private Databases, *Ke Wang, Yabo Xu, Rong She, and Philip S. Yu*

AI & the Web: Information Extraction

Chair: Sofus Macskassy

Table Extraction Using Spatial Reasoning on the CSS2 Visual Box Model, *Wolfgang Gatterbauer and Paul Bohunsky*

Mining Comparative Sentences and Relations, *Nitin Jindal and Bing Liu*

Nectar: Overview of AutoFeed: An Unsupervised Learning System for Generating Webfeeds, *Bora Gazen and Steven Minton*

IAAI-06: Software Agents

Chair: Bill Cheetham

Emerging Application: Building Explainable Artificial Intelligence Systems, *Mark G. Core, H. Chad Lane, Michael van Lent, Dave Gomboc, Steve Solomon, and Milton Rosenberg*

Emerging Application: Local Negotiation in Cellular Networks: From Theory to Practice, *Raz Lin, Daphna Dor-Shifer, Sarit Kraus, and David Sarne*

	Seaport B&C	Harborview I (WTC)	Cityview II (WTC)
Talks	**AAAI-06 Invited Talk Session** 9:00 - 10:00 AM: **Developing an Intelligent Personal Assistant: The CALO Project**, *Karen Myers*, Introduced by *Martha E. Pollack*, Amphitheater, Mezzanine Level 9:00 - 10:00 AM: **Global Inference and Learning: Towards Natural Language Understanding**, *Dan Roth*, Introduced by *Leslie Valiant*, Cityview I, World Trade Center		
10:20 – 11:20 AM	**Machine Learning: Reinforcement Learning I** *Chair: Shimon Whiteson* Mixtures of Predictive Linear Gaussian Models for Nonlinear, Stochastic Dynamical Systems, *David Wingate and Satinder Singh* Representing Systems with Hidden State, *Christopher Hundt, Prakash Panagaden, Joelle Pineau, and Doina Precup* Decision Tree Methods for Finding Reusable MDP Homomorphisms, *Alicia Peregrin Wolfe and Andrew G. Barto*	**Knowledge Representation I** *Chair: Michael Thielscher* Towards an Axiom System for Default Logic, *Gerhard Lakemeyer and Hector J. Levesque* Forgetting and Conflict Resolving in Disjunctive Logic Programming, *Thomas Eiter and Kewen Wang* Finding Maximally Satisfiable Terminologies for the Description Logic ALC, *Thomas Meyer, Kevin Lee, Richard Booth, and Jeff Z. Pan*	**Constraint Satisfaction I** *Chair: Abdul Sattar* Temporal Preference Optimization as Weighted Constraint Satisfaction, *Michael D. Moffitt and Martha E. Pollack* Simple Randomized Algorithms for Tractable Row and Tree Convex Constraints, *T. K. Satish Kumar* Length-Lex Ordering for Set CSPs, *Carmen Gervet and Pascal van Hentenryck*
11:30 – 12:30 PM	**Machine Learning: Reinforcement Learning II** *Chair: Pascal Poupart* Optimal Unbiased Estimators for Evaluating Agent Performance, *Martin Zinkevich, Michael Bowling, Nolan Bard, Morgan Kan, and Darse Billings* *Nectar:* Real-Time Evolution of Neural Networks in the NERO Video Game, *Kenneth O. Stanley, Bobby D. Bryant, Igor Karpov, and Risto Miikkulainen* Sample-Efficient Evolutionary Function Approximation for Reinforcement Learning, *Shimon Whiteson and Peter Stone*	**Knowledge Representation II** *Chair: Xiaoqin (Shelley) Zhang* Explaining Qualitative Decision under Uncertainty by Argumentation, *Leila Amgoud and Henri Prade* On the Complexity of Linking Deductive and Abstract Argument Systems, *Michael Wooldridge, Paul E. Dunne, and Simon Parsons* Model-Checking Memory Requirements of Resource-Bounded Reasoners, *Alexandre Albore, Natasha Alechina, Piergiorgio Bertoli, Chiara Ghidini, Brian Logan, and Luciano Serafini*	**Constraint Satisfaction II** *Chair: Barry O'Sullivan* Exploiting Tree Decomposition and Soft Local Consistency In Weighted CSP, *Simon de Givry, Thomas Schiex, and Gérard Verfaillie* Weighted Constraint Satisfaction with Set Variables, *J. H. M. Lee and C. F. K. Siu* An Efficient Way of Breaking Value Symmetries, *Jean-François Puget*
1:50 – 2:50 PM	**Machine Learning: Transfer Learning** *Chair: Rich Maclin* Cross-Domain Knowledge Transfer Using Structured Representations, *Samarth Swarup and Sylvian R. Ray* Using Homomorphisms to Transfer Options across Continuous Reinforcement Learning Domains, *Vishal Soni and Satinder Singh* Value-Function-Based Transfer for Reinforcement Learning Using Structure Mapping, *Yaxin Liu and Peter Stone*	**Game Theory I** *Chair: Amy Greenwald* *Senior:* Methods for Empirical Game-Theoretic Analysis, *Michael P. Wellman* Impersonation-Based Mechanisms, *Moshe Babaioff, Ron Lavi, and Elan Pavlov* Strong Mediated Equilibrium, *Dov Monderer and Moshe Tennenholtz*	**Markov Decision Processes** *Chair: Judy Goldsmith* Compact, Convex Upper Bound Iteration for Approximate POMDP Planning, *Tao Wang, Pascal Poupart, Michael Bowling, and Dale Schuurmans* Point-based Dynamic Programming for DEC-POMDPs, *Daniel Szer and François Charpillet* On the Difficulty of Achieving Equilibrium in Interactive POMDPs, *Prashant Doshi and Piotr J. Gmytrasiewicz*
3:00 – 4:00 PM	**Machine Learning: SVM Learning & Kernels** *Chair: Shaul Markovitch* A Simple and Effective Method for Incorporating Advice into Kernel Methods, *Richard Maclin, Jude Shavlik, Trevor Walker, and Lisa Torrey* Robust Support Vector Machine Training via Convex Outlier Ablation, *Linli Xu, Koby Crammer, and Dale Schuurmans* kFOIL: Learning Simple Relational Kernels, *Niels Landwehr, Andrea Passerini, Luc De Raedt, and Paolo Frasconi*	**Game Theory II** *Chair: Kevin Leyton-Brown* Nonexistence of Voting Rules That Are Usually Hard to Manipulate, *Vincent Conitzer and Tuomas Sandholm* Robust Mechanisms for Information Elicitation, *Aviv Zohar and Jeffrey S. Rosenschein* The Complexity of Bribery in Elections, *Piotr Faliszewski, Edith Hemaspaandra, and Lane A. Hemaspaandra*	**Constraint Satisfaction III** *Chair: Toby Walsh* *Senior:* Constraints: The Ties that Bind, *Eugene C. Freuder* Local-Search techniques for Boolean Combinations of Pseudo-Boolean Constraints, *Lengning Liu and Miroslaw Truszczynski* A Quadratic Propagator for the Inter-Distance Constraint, *Claude-Guy Quimper, Alejandro López-Ortiz, and Gilles Pesant*
4:20 – 5:20 PM	**Machine Learning: Unsupervised & Semi-Supervised Learning** *Chair: Chris Drummond* Clustering by Exceptions, *Fabrizio Angiulli* Learning Systems of Concepts with an Infinite Relational Model, *Charles Kemp, Joshua B. Tenenbaum, Thomas L. Griffiths, Takeshi Yamada, and Naonori Ueda* Semi-supervised Multi-label Learning by Constrained Non-negative Matrix Factorization, *Yi Liu, Rong Jin, and Liu Yang*	**Game Theory III** *Chair: Makoto Yokoo* A Computational Model of Logic-Based Negotiation, *Dongmo Zhang and Yan Zhang* Regret-based Incremental Partial Revelation Mechanisms, *Nathanaël Hyafil and Craig Boutilier* *Nectar:* Handling Self-Interest in Groups, with Minimal Cost, *Ruggiero Cavallo*	**Constraint Satisfaction IV** *Chair: Jimmy H. M. Lee* Improved Bounds for Computing Kemeny Rankings, *Vincent Conitzer, Andrew Davenport, and Jayant Kalagnanam* The Impact of Balancing on Problem Hardness in a Highly Structured Domain, *Carlos Ansótegui, Ramón Béjar, César Fernàndez, Carla Gomes, and Carles Mateu* A BDD-Based Polytime Algorithm for Cost-Bounded Interactive Configuration, *Tarik Hadzic and Henrik Reif Andersen*
Evening	**AAAI-06 Technical Posters & Intelligent Systems Demonstrations** 5:30–9:30 PM Plaza Ballroom, Plaza Level, Seaport *(Posters listed on page 14)*		

Seaport A	Cityview I (WTC)	Harborview II (IAAI)

Coffee breaks will be held at 10:00-10:20 AM and 4:00 – 4:20 PM. The lunch break will be held from 12:30 – 1:50 PM.

Search: Games I

Chair: Vincent Conitzer

Overconfidence or Paranoia? Search in Imperfect-Information Games, *Austin Parker, Dana Nau, and VS Subrahmanian*

Properties of Forward Pruning in Game-Tree Search, *Yew Jin Lim and Wee Sun Lee*

RankCut — A Domain Independent Forward Pruning Method for Games, *Yew Jin Lim and Wee Sun Lee*

AI & the Web: Information Retrieval

Chair: Jon Herlocker

Minimally Invasive Randomization fro Collecting Unbiased Preferences from Clickthrough Logs, *Filip Radlinski and Thorsten Joachims*

Predicting Task-Specific Webpages for Revisiting, *Arwen Twinkle Lettkeman, Simone Stumpf, Jed Irvine, and Jonathan Herlocker*

Improve Web Search Using Image Snippets, *Xiao-Bing Xue, Zhi-Hua Zhou, and Zhongfei (Mark) Zhang*

IAAI-06 Invited Talk

Electrifying Knowledge Work: 362 Innovative Applications of Artificial Intelligence 1989-2006, *Neil Jacobstein,* introduced by *Bill Cheetham*

Search: Games II

Chair: Makoto Yokoo

Prob-Max$_n$: Playing N-Player Games with Opponent Models, *Nathan Sturtevant, Martin Zinkevich, and Michael Bowling*

On Strictly Competitive Multi-Player Games, *Felix Brandt, Felix Fischer, and Yoav Shoham*

A Polynomial-Time Algorithm for Action Graph Games, *Albert Xin Jiang and Kevin Leyton-Brown*

AI & the Web: Information Interaction

Chair: Tony Cohn

Using Semantics to Identify Web Objects, *Nathanael Chambers, James Allen, Lucian Galescu, Hyuckchul Jung, and William Taysom*

Automatically Labeling the Inputs and Outputs of Web Services, *Kristina Lerman, Anon Plangprasopchok, and Craig A. Knoblock*

Spinning Multiple Social Networks for Semantic Web, *Yutaka Matsuo, Masahiro Hamasaki, Yoshiyuki Nakamura, Takuichi Nishimura, Kôiti Hasida, Hideaki Takeda, Junichiro Mori, Danushka Bollegala, and Mitsuru Ishizuka*

IAAI-06: Biomedical Applications 2

Chair: Howard Shrobe

Emerging Application: CM-Extractor: An Application for Automating Medical Quality Measures Abstraction in a Hospital Setting, *Mark L. Morsch, Joel L. Vengco, Ronald E. Sheffer, Jr., and Daniel T. Heinze*

Emerging Application: Monitoring Food Safety by Detecting Patterns in Consumer Complaints, *Artur Dubrawski, Kimberly Elenberg, Andrew Moore, and Maheshkumar Sabhnani*

Search: Games & Applications

Chair: Vincent Conitzer

An Efficient Algorithm for Scatter Chart Labeling ,*Sebastian Theophil and Arno Schödl*

Monte Carlo Go Has a Way to Go, *Haruhiro Yoshimoto, Kazuki Yoshizoe, Tomoyuki Kaneko, Akihiro Kishimoto, and Kenjiro Taura*

A Competitive Texas Hold'em Poker Player via Automated Abstraction and Real-Time Equilibrium Computation, *Andrew Gilpin and Tuomas Sandholm*

IIC: Agent Architectures

Chair: Karen Myers

A Unified Cognitive Architecture for Physical Agents, *Pat Langley and Dongkyu Choi*

TacTex-05: A Champion Supply Chain Management Agent, *David Pardoe and Peter Stone*

QUICR-Learning for Multi-Agent Coordination, *Adrian K. Agogino and Kagan Tumer*

IAAI-06: Constraint-Based Systems

Chair: Bruce Porter

Deployed Application: Constraint-Based Random Stimuli Generation for Hardware Verification, *Yehuda Naveh, Michal Rimon, Itai Jaeger, Yoav Katz, Michael Vinov, Eitan Marcus, and Gil Shurek*

Emerging Application: AWDRAT: A Cognitive Middleware System for Information Survivability, *Howard Shrobe, Robert Laddaga, Bob Balzer, Neil Goldman, Dave Wile, Marcelo Tallis, Tim Hollebeek, and Alexander Egyed*

Search I

Chair: Vadim Bulitko

Estimating Search Tree Size, *Philip Kilby, John Slaney, Sylvie Thiébaux, and Toby Walsh*

Planning with First-Order Temporally Extended Goals using Heuristic Search, *Jorge A. Baier and Sheila A. McIlraith*

Dual Search in Permutation State Spaces, *Uzi Zahavi, Ariel Felner, Robert Holte, and Jonathan Schaeffer*

IIC: Integrated Natural Language Processing

Chair: Candy Sidner

Deeper Natural Language Processing for Evaluating Student Answers in Intelligent Tutoring Systems, *Vasile Rus and Art C. Graesser*

Walk the Talk: Connecting Language, Knowledge, and Action in Route Instructions, *Matt MacMahon, Brian Stankiewicz, and Benjamin Kuipers*

Integrating Joint Intention Theory, Belief Reasoning, and Communicative Action for Generating Team-Oriented Dialogue, *Rajah Annamalai Subramanian, Sanjeev Kumar, and Philip Cohen*

IAAI-06: Knowledge-Based Systems 2

Chair: Karen Haigh

Deployed Application: Machine Translation for Manufacturing: A Case Study at Ford Motor Company, *Nestor Rychtyckyj*

Emerging Application: Ontology Based Semantic Modeling for Chinese Ancient Architectures, *Yong Liu, Congfu Xu, Qiong Zhang, and Yunhe Pan*

Search II

Chair: Yaxin Liu

DD* Lite: Efficient Incremental Search with State Dominance, *G. Ayorkor Mills-Tettey, Anthony Stentz, and M. Bernardine Dias*

Domain-Independent Structured Duplicate Detection, *Rong Zhou and Eric A. Hansen*

Nectar: A Breadth-First Approach to Memory-Efficient Graph Search, *Rong Zhou and Eric A. Hansen*

IIC: Human-Robot Interaction

Chair: Candy Sidner

Perspective Taking: An Organizing Principle for Learning in Human-Robot Interaction, *Matt Berlin, Jesse Gray, Andrea L. Thomaz, and Cynthia Breazeal*

Intuitive linguistic Joint Object Reference in Human-Robot Interaction: Human Spatial Reference Systems and Function-Based Categorization for Symbol Grounding, *Reinhard Moratz*

Know Thine Enemy: A Champion RoboCup Coach Agent, *Gregory Kuhlmann, William B. Knox, and Peter Stone*

IAAI-06: Robert S. Engelmore Memorial Lecture

What Do We Know About Knowledge? *Bruce G. Buchanan,* introduced by *David Leake*

	Seaport B&C	Harborview I (WTC)	Cityview II (WTC)
9:00 – 10:00 AM	**AAAI-06 Invited Talk Session** **Unifying Logical and Statistical AI** *Pedro Domingos*,Introduced by *Tom Mitchell* Amphitheater, World Trade Center **Cognitive Tutors and Opportunities for Convergence of Human and Machine Learning Theory** *Ken Koedinger*, Introduced by *Kenneth Forbus* Cityview I, World Trade Center		
10:20 – 11:20 AM	**Machine Learning: Statistical Relational Learning** *Chair: Brian Milch* Sound and Efficient Inference with Probabilistic and Deterministic Dependencies, *Hoifung Poon and Pedro Domingos* Memory-Efficient Inference in Relational Domains, *Parag Singla and Pedro Domingos* Identification and Evaluation of Weak Community Structures in Networks, *Jianhua Ruan and Weixiong Zhang*	**Logic Programming** *Chair: Vladimir Lifschitz* Elementary Sets of Logic Programs, *Martin Gebser, Joohyung Lee, and Yuliya Lierler* Answer Sets for Logic Programs with Arbitrary Abstract Constraint Atoms, *Tran Cao Son, Enrico Pontelli, and Phan Huy Tu* Bounded Treewidth as a Key to Tractability of Knowledge Representation and Reasoning, *Georg Gottlob, Reinhard Pichler, and Fang Wei*	**Temporal Reasoning** *Chair: Yves Lesperance* Optimal Scheduling of Contract Algorithms for Anytime Problems, *Alejandro López-Ortiz, Spyros Angelopoulos, and Angèle M. Hamel* Tractable Classes of Metric Temporal Problems with Domain Rules, *T. K. Satish Kumar* Learning Partially Observable Action Schemas, *Dafna Shahaf and Eyal Amir*
11:30 – 12:30 PM	**Machine Learning: Evolutionary Computation** *Chair: Shimon Whiteson* A New Approach to Estimating the Expected First Hitting Time of Evolutionary Algorithms, *Yang Yu and Zhi-Hua Zhou* Conflict Resolution and a Framework for Collaborative Interactive Evolution, *Sean R. Szumlanski, Annie S. Wu, and Charles E. Hughes* A Direct Evolutionary Feature Extraction Algorithm for Classifying High Dimensional Data, *Qijun Zhao, David Zhang, and Hongtao Lu*	**UAI: Decision Theory** *Chair: Judy Goldsmith* Efficient Active Fusion for Decision-Making via VOI Approximation, *Wenhui Liao and Qiang Ji* CUI Networks: A Graphical Representation for Conditional Utility Independence, *Yagil Engel and Michael P. Wellman* *Nectar:* Preference Elicitation and Generalized Additive Utility, *Darius Braziunas and Craig Boutilier*	**Satisfiability I** *Chair: Miroslav Velev* On the Use of Partially Ordered Decision Graphs in Knowledge Compilation and Quantified Boolean Formulae, *Hélène Fargier and Pierre Marquis* Model Counting: A New Strategy for Obtaining Good Bounds, *Carla P. Gomes, Ashish Sabharwal, and Bart Selman* *Nectar:* Acquiring Constraint Networks Using a SAT-based Version Space Algorithm, *Christian Bessiere, Remi Coletta, Frédéric Koriche, and Barry O'Sullivan*
1:50 – 2:50 PM	**Machine Learning: Ensemble Learning** *Chair: Dragos D. Margineantu* On Combining Multiple Classifiers Using an Evidential Approach, *Yaxin Bi, Sally McClean, and Terry Anderson* Boosting Expert Ensembles for Rapid Concept Recall, *Achim Rettinger, Martin Zinkevich, and Michael Bowling* Gradient Boosting for Sequence Alignment, *Charles Parker, Alan Fern, and Prasad Tadepalli*	**UAI: Probabilistic Inference** *Chair: Richard Korf* MPE and Partial Inversion in Lifted Probabilistic Variable Elimination, *Rodrigo de Salvo Braz, Eyal Amir, and Dan Roth* Solving MAP Exactly by Searching on Compiled Arithmetic Circuits, *Jinbo Huang, Mark Chavira, and Adnan Darwiche* An Edge Deletion Semantics for Belief Propagation and its Practical Impact on Approximation Quality, *Arthur Choi and Adnan Darwiche*	**Satisfiability II** *Chair: Ashish Sabharwal* New Inference Rules for Efficient Max-SAT Solving, *Federico Heras and Javier Larrosa* Efficient Haplotype Inference with Boolean Satisfiability, *Inês Lynce and João Marques-Silva* Fast SAT-based Answer Set Solver, *Zhijun Lin, Yuanlin Zhang, and Hector Hernandez*
3:00 – 4:00 PM	**AI & the Turing Test** *Chair: Stuart Shapiro* *Senior:* Turing's Dream and the Knowledge Challenge, *Lenhart Schubert* *Senior:* Does the Turing Test Demonstrate Intelligence or Not? *Stuart M. Shieber*	**UAI: Bayesian Networks** *Chair: Miroslav Velev* Identifiability in Causal Bayesian Networks: A Sound and Complete Algorithm, *Yimin Huang and Marco Valtorta* Identification of Joint Interventional Distributions in Recursive Semi-Markovian Causal Models, *Ilya Shpitser and Judea Pearl* A Bayesian Network for Outbreak Detection and Prediction, *Xia Jiang and Garrick L. Wallstrom*	**Satisfiability III** *Chair: Jussi Rintanen* Abstract Branching for Quantified Formulas, *Marco Benedetti* Solving QBF by Combining Conjunctive and Disjunctive Normal Forms, *Lintao Zhang* DNNF-based Belief State Estimation, *Paul Elliott and Brian Williams*

Seaport A	Cityview I (WTC)	Harborview II (IAAI)

A Coffee break will be held at 10:00-10:20 AM. The lunch break will be held from 12:30 – 1:50 PM.

Robotics I

Chair: Bernadine Dias

Senior: Integrated AI in Space: The Autonomous Sciencecraft on Earth Observing One, *Steve Chien*

Exploiting Spatial and Temporal Flexibility for Plan Execution for Hybrid, Under-actuated Robots, *Andreas G. Hofmann and Brian C. Williams*

A Manifold Regularization Approach to Calibration Reduction for Sensor-Network Based Tracking, *Jeffrey Junfeng Pan, Qiang Yang, Hong Chang, and Dit-Yan Yeung*

General Game Playing / Hall of Champions

Chair: Mark T. Maybury

Automatic Heuristic Construction in a Complete General Game Player, *Gregory Kuhlmann and Peter Stone*

Winning the DARPA Grand Challenge with an AI Robot, *Michael Montemerlo, Sebastian Thrun, Hendrik Dahlkamp, David Stavens, and Sven Strohband*

Running the Table: An AI for Computer Billiards, *Michael Smith*

IAAI-06: Knowledge-Based Agents

Chair: Neil Jacobstein

Emerging Application: Multiagent Coalition Formation for Computer-Supported Cooperative Learning, *Leen-Kiat Soh, Nobel Khandaker, and Hong Jiang*

Emerging Application: Design and Implementation of the CALO Query Manager, *Jose-Luis Ambite, Vinay K. Chaudhri, Richard Fikes, Jessica Jenkins, Sunil Mishra, Maria Muslea, Tomas Uribe, and Guizhen Yang*

Robotics II

Chair: Bernadine Dias

Bayesian Calibration for Monte Carlo Localization, *Armita Kaboli, Michael Bowling, and Petr Musilek*

Nectar: Subjective Mapping, *Michael Bowling, Dana Wilkinson, and Ali Ghodsi*

Efficient Triangulation-Based Pathfinding, *Douglas Demyen and Michael Buro*

Human-Computer Interaction & Cognitive Modeling: Intelligent Tutoring Systems

Chair: Mark T. Maybury

Classifying Learner Engagement through Integration of Multiple Data Sources, *Carole R. Beal, Lei Qu, and Hyokyeong Lee*

A Dynamic Mixture Model to Detect Student Motivation and Proficiency, *Jeff Johns and Beverly Woolf*

Probabilistic Goal Recognition in Interactive Narrative Environments, *Bradford Mott, Sunyoung Lee, and James Lester*

IAAI-06: Constraint-Based Reasoning

Deployed Application: Expressive Commerce and Its Application to Sourcing, *Tuomas Sandholm*

Robotics III

Chair: Sven Koenig

Senior: From the Programmer's Apprentice to Human-Robot Interaction: Thirty Years of Research on Human-Computer Collaboration, *Charles Rich and Candace L. Sidner*

Reinforcement Learning with Human Teachers: Evidence of Feedback and Guidance with Implications for Learning Performance, *Andrea L. Thomaz and Cynthia Breazeal*

Diagnosis of Multi-Robot Coordination Failures Using Distributed CSP Algorithms, *Meir Kalech, Gal A. Kaminka, Amnon Meisels, and Yehuda Elmaliach*

Human-Computer Interaction & Cognitive Modeling: Cognitive Modeling

Chair: Mark T. Maybury

Modeling Human Decision Making in Cliff-Edge Environments, *Ron Katz and Sarit Kraus*

From Pigeons to Humans: Grounding Relational Learning in Concrete Examples, *Marc T. Tomlinson and Bradley C. Love*

Nectar: AI Support for Building Cognitive Models, *Robert St. Amant, Sean P. McBride, and Frank E. Ritter*

IAAI-06: Personalization Technologies

Chair: Bruce Porter

Emerging Application: CPM: Context-Aware Power Management in WLANs, *Fahd Albinali and Chris Gniady*

Emerging Application: Trip Router with Individualized Preferences (TRIP): Incorporating Personalization into Route Planning, *Julia Letchner, John Krumm, and Eric Horvitz*

Computer Vision

Object Boundary Detection in Images using a Semantic Ontology, *Anthony Hoogs and Roderic Collins*

Motion-Based Autonomous Grounding: Inferring External World Properties from Encoded Internal Sensory States Alone, *Yoonsuck Choe and Noah H. Smith*

Nectar: The Role of Context in Head Gesture Recognition, *Louis-Philippe Morency, Candace Sidner, Christopher Lee, and Trevor Darrell*

Competitions at AAAI-06

Chair: Yaxin Liu

General Game Playing Competition, *Michael Genesereth*

Mobile Robot Competition, *Paul Rybski and Jeffrey Forbes*

Poker Competition, *Martin Zinkevich, University of Alberta*

IAAI-06: Knowledge-Based Systems 3

Chair: Karen Haigh

Deployed Application: TPBOSCourier: A Transportation Procurement System (for the Procurement of Courier Services), *Andrew Lim, Zhou Xu, Brenda Cheang, Ho Wee Kit, and Steve Au-yeung*

Emerging Application: Hand Grip Pattern Recognition for Mobile User Interfaces, *Kee-Eung Kim, Wook Chang, Sung-Jung Cho, Junghyun Shim, Hyunjeong Lee, Joonah Park, Youngbeom Lee, and Sangryoung Kim*

A limited number of Proceedings (in both book and CD form) are available for purchase in Registration.

AAAI-06 Poster Session

The poster session will be held Wednesday, July 19, in the Plaza Ballroom, Seaport Hotel, from 5:30–9:30 PM.

AAAI-06 Technical Papers

Constraint Satisfaction and Satisfiability

Extending Dynamic Backtracking to Solve Weighted Conditional CSPs, *Robert T. Effinger and Brian C. Williams*

Detecting Disjoint Inconsistent Subformulas for Computing Lower Bounds for Max-SAT, *Chu-Min Li, Felip Manyà, and Jordi Planes*

An Asymptotically Optimal Algorithm for the Max k-Armed Bandit Problem, *Matthew J. Streeter and Stephen F. Smith*

Human Computer Interaction and Cognitive Modeling

Evaluating Critiquing-based Recommender Agents, *Li Chen and Pearl Pu*

Salience in Orientation-Filter Response Measured as Suspicious Coincidence in Natural Images, *Subramonia Sarma and Yoonsuck Choe*

Knowledge Representation and Logic

Goal Specification, Non-Determinism and Quantifying over Policies, *Chitta Baral and Jicheng Zhao*

Belief Change in the Context of Fallible Actions and Observations, *Aaron Hunter and James P. Delgrande*

Characterizing Data Complexity for Conjunctive Query Answering in Expressive Description Logics, *Magdalena Ortiz, Diego Calvanese, and Thomas Eiter*

Reconciling Situation Calculus and Fluent Calculus, *Stephan Schiffel and Michael Thielscher*

Machine Learning

On the Difficulty of Modular Reinforcement Learning for Real-World Partial Programming, *Sooraj Bhat, Charles L. Isbell, Jr., and Michael Mateas*

Identifying and Generating Easy Sets of Constraints for Clustering, *Ian Davidson and S. S. Ravi*

Nonnegative Matrix Factorization and Probabilistic Latent Semantic Indexing: Equivalence Chi-Square Statistic, and a Hybrid Method, *Chris Ding, Tao Li, and Wei Peng*

Incremental Least-Squares Temporal Difference Learning, *Alborz Geramifard, Michael Bowling, and Richard S. Sutton*

Improving Approximate Value Iteration Using Memories and Predictive State Representations, *Michael R. James, Ton Wessling, and Nikos Vlassis*

Quantifying the Impact of Learning Algorithm Parameter Tuning, *Niklas Lavesson and Paul Davidsson*

Multi-Conditional Learning: Generative/Discriminative Training for Clustering and Classification, *Andrew McCallum, Chris Pal, Greg Druck, and Xuerui Wang*

Learning Blocking Schemes for Record Linkage, *Matthew Michelson and Craig A. Knoblock*

Thresholding for Making Classifiers Cost-sensitive, *Victor S. Sheng and Charles X. Ling*

Cost-Sensitive Test Strategies, *Charles X. Ling and Shengli Sheng*

A Fast Decision Tree Learning Algorithm, *Jiang Su and Harry Zhang*

Hard Constrained Semi-Markov Decision Processes, *Wai-Leong Yeow, Chen-Khong Tham, and Wai-Choong Wong*

On Multi-Class Cost-Sensitive Learning, *Zhi-Hua Zhou and Xu-Ying Liu*

Multiagent Systems

Keeping in Touch: Maintaining Biconnected Structure by Homogeneous Robots, *Mazda Ahmadi and Peter Stone*

Quantifying Incentive Compatibility of Ranking Systems, *Alon Altman and Moshe Tennenholtz*

Computing Slater Rankings Using Similarities among Candidates, *Vincent Conitzer*

Distributed Interactive Learning in Multi-Agent Systems, *Jian Huang and Adrian R. Pearce*

A Compact Representation Scheme for Coalitional Games in Open Anonymous Environments, *Naoki Ohta, Atsushi Iwasaki, Makoto Yokoo, Kohki Maruono, Vincent Conitzer, and Tuomas Sandholm*

ODPOP: An Algorithm for Open/Distributed Constraint Optimization, *Adrian Petcu and Boi Faltings*

Behaviosites: Manipulation of Multiagent System Behavior through Parasitic Infection, *Amit Shabtay, Zinovi Rabinovich, and Jeffrey S. Rosenschein*

Simultaneous Team Assignment and Behavior Recognition from Spatio-Temporal Agent Traces, *Gita Sukthankar and Katia Sycara*

Contract Enactment in Virtual Organizations: A Commitment-Based Approach, *Yathiraj B. Udupi and Munindar P. Singh*

Mechanisms for Partial Information Elicitation: The Truth, but Not the Whole Truth, *Aviv Zohar and Jeffrey S. Rosenschein*

Natural Language Processing

Script and Language Identification in Degraded and Distorted Document Images, *Shijian Lu and Chew Lim Tan*

Reasoning about Plans and Actions

Adaptive Sampling Based Large-Scale Stochastic Resource Control, *Balázs Csanád Csáji and László Monostori*

Cost-Optimal External Planning, *Stefan Edelkamp and Shahid Jabbar*

Reasoning about Discrete Event Sources, *Shieu-Hong Lin*

Learning Partially Observable Action Models: Efficient Algorithms, *Dafna Shahaf, Allen Chang, and Eyal Amir*

Robotics and Computer Vision

Probabilistic Self-Localization for Sensor Networks, *Dimitrii Marinakis and Gregory Dudek*

Search and Game Playing

Sequential and Parallel Algorithms for Frontier A* with Delayed Duplicate Detection, *Robert Niewiadomski, José Nelson Amaral, and Robert C. Holte*

Disco — Novo — GoGo: Integrating Local Search and Complete Search with Restarts, *Meinolf Sellmann and Carlos Ansótegui*

Uncertainty in AI

An Iterative Algorithm for Solving Constrained Decentralized Markov Decision Processes, *Aurélie Beynier and Abdel-Illah Mouaddib*

An Anytime Scheme for Bounding Posterior Beliefs, *Bozhena Bidyuk and Rina Dechter*

Preferences over Sets, *R. I. Brafman, C. Domshlak, S. E. Shimony, and Y. Silver*

When Gossip is Good: Distributed Probabilistic Inference for Detection of Slow Network Intrusions, *Denver Dash, Branislav Kveton, John Mark Agosta, Eve Schooler, Jaideep Chandrashekar, Abraham Bachrach, and Alex Newman*

Learning Basis Functions in Hybrid Domains, *Branislav Kveton and Milos Hauskrecht*

Incremental Least Squares Policy Iteration for POMDPs, *Hui Li, Xuejun Liao, and Lawrence Carin*

Performing Incremental Bayesian Inference by Dynamic Model Counting, *Wei Li, Peter van Beek, and Pascal Poupart*

Functional Value Iteration for Decision-Theoretic Planning with General Utility Functions, *Yaxin Liu and Sven Koenig*

Learning Representation and Control in Continuous Markov Decision Processes, *Sridhar Mahadevan, Mauro Maggioni, Kimberly Ferguson, and Sarah Osentoski*

Memory Intensive Branch-and-Bound Search for Graphical Models, *Radu Marinescu and Rina Dechter*

Bayesian Reputation Modeling in E-Marketplaces Sensitive to Subjectivity, Deception and Change, *Kevin Regan, Pascal Poupart, and Robin Cohen*

Targeting Specific Distributions of Trajectories in MDPs, *David L. Roberts, Mark J. Nelson, Charles L. Isbell, Jr., Michael Mateas, and Michael L. Littman*

Focused Real-Time Dynamic Programming for MDPs: Squeezing More Out of a Heuristic, *Trey Smith and Reid Simmons*

A Characterization of Interventional Distributions in Semi-Markovian Causal Models, *Jin Tian, Changsung Kang, and Judea Pearl*

Special Track on Artificial Intelligence and the Web

A Platform to Evaluate the Technology for Service Discovery in the Semantic Web, *Cecile Aberg, Johan Aberg, Patrick Lambrix, and Nahid Shahmehri*

Comparative Experiments on Sentiment Classification for Online Product Reviews, *Hang Cui, Vibhu Mittal, and Mayur Datar*

On the Update of Description Logic Ontologies at the Instance Level, *Giuseppe De Giacomo, Maurizio Lenzerini, Antonella Poggi, and Riccardo Rosati*

Mining and Re-ranking for Answering Biographical Queries on the Web, *Donghui Feng, Deepak Ravichandran, and Eduard Hovy*

Inconsistencies, Negations and Changes in Ontologies, *Giorgos Flouris, Zhisheng Huang, Jeff Z. Pan, Dimitris Plexousakis, and Holger Wache*

Deciding Semantic Matching of Stateless Services, *Duncan Hull, Evgeny Zolin, Andrey Bovykin, Ian Horrocks, Ulrike Sattler, and Robert Stevens*

Detecting Spam Blogs: A Machine Learning Approach, *Pranam Kolari, Akshay Java, Tim Finin, Tim Oates, and Anupam Joshi*

Novel Relationship Discovery Using Opinions Mined from the Web, *Lun-Wei Ku, Hsiu-Wei Ho, and Hsin-Hsi Chen*

An Investigation into the Feasibility of the Semantic Web, *Zhengxiang Pan, Abir Qasem, and Jeff Heflin*

Inferring User's Preferences using Ontologies, *Vincent Schickel-Zuber and Boi Faltings*

New Scientific and Technical Advances in Research Papers (NECTAR)

Building Semantic Mappings from Databases to Ontologies, *Yuan An, John Mylopoulos, and Alex Borgida*

Maintaining Cooperation in Noisy Environments, *Tsz-Chiu Au and Dana Nau*

B-ROC Curves for the Assessment of Classifiers over Imbalanced Data Sets, *Alvaro A. Cárdenas and John S. Baras*

Constraint Symmetry and Solution Symmetry, *David Cohen, Peter Jeavons, Christopher Jefferson, Karen E. Petrie, and Barbara M. Smith*

Traffic Intersections of the Future, *Kurt Dresner and Peter Stone*

Towards a Validated Model of "Emotional Intelligence," *Jonathan Gratch, Stacy Marsella, and Wenji Mao*

The Power of Sequential Single-Item Auctions for Agent Coordination, *Sven Koenig, Craig Tovey, Michail Lagoudakis, Vangellis Markakis, David Kempe, Pinar Keskinocak, Anton Kleywegt, Adam Meyerson, and Sonal Jain*

Controlled Search over Compact State Representations, in Nondeterministic Planning Domains and Beyond, *Ugur Kuter and Dana Nau*

The Synthy Approach for End to End Web Services Composition: Planning with Decoupled Causal and Resource Reasoning, *Biplav Srivastava*

Explanation-Based Learning for Image Understanding, *Qiang Sun, Li-Lun Wang, and Gerald DeJong*

Automatic Wrapper Generation Using Tree Matching and Partial Tree Alignment, *Yanhong Zhai and Bing Liu*

Responsive Information Architect: Enabling Context-Sensitive Information Seeking, *Michelle X. Zhou, Keith Houck, Shimei Pan, James Shaw, Vikram Aggarwal, and Zhen Wen*

AAAI Member Abstracts

Semantic Tagging at the Sense Level, *Alina Andreevskaia and Sabine Bergler*

Slashpack: An Integrated Tool for Gathering and Managing Hypertext Data, *Christopher H. Brooks, Monica Agarwal, Jason Endo, Ryan King, Nancy Montanez, and Rudd Stevens*

Lookahead Pathology in Real-Time Path-Finding, *Vadim Bulitko and Mitja Lustrek*

Explicit Passive Analysis in Electronic Catalogs, *David Portabella Clotet and Martin Rajman*

A Negotiation Protocol for Agents with Nonlinear Utility Functions, *Takayuki Ito, Mark Klein, and Hiromitsu Hattori*

A Decision-Theoretic Planner with Dynamic Compound Reconfiguration for Distributed Real-Time Applications, *John S. Kinnebrew, Nishanth Shankaran, Gautam Biswas, and Douglas Schmidt*

Using an Ontology for Knowledge Acquisition, *Stacy Lovell and Webb Stacy*

PB-smodels a Pseudo-Boolean Solver, *Gayathri Namasivayam*

Bayesian Network Based Reparameterization of Haar-like Feature, *Hirotaka Niitsuma*

Locally Optimal Algorithms and Solutions for Distributed Constraint Optimization, *Jonathan P. Pearce*

Wavelet Statistics for Human Motion Classification, *Kevin Quennesson, Elias Ioup, and Charles Isbell*

Evaluation of Solving Models for Conditional Constraint Satisfaction Problems, *Mihaela Sabin and Esther Gelle*

Machine Life-Long Learning with csMTL Networks, *Daniel L. Silver and Ryan Poirier*

How to Put the Pieces of AI Together Again, *Aaron Sloman*

Decision Making in Uncertain Real-World Domains Using DT-Golog, *Mikhail Soutchanski, Huy Pham, and John Mylopoulos*

Integrating Clustering and Classification for Estimating Process Variables in Materials Science, *Aparna S. Varde, Elke A. Rundensteiner, Carolina Ruiz, David C. Brown, Mohammed Maniruzzaman, and Richard D. Sisson Jr.*

When is Constrained Clustering Beneficial, and Why? *Kiri Wagstaff, Sugato Basu, and Ian Davidson*

Interpretation of Design Drawings by Analogy, *Patrick W. Yaner and Ashok K. Goel*

Student Abstracts

Biconnected Structure for Multi-Robot Systems, *Mazda Ahmadi and Peter Stone*

A Benchmark for Cooperative Learning Agents, *Jason M. Black and Dean F. Hougen*

Performance Evaluation Methods for the Trading Agent Competition, *Brett Borghetti and Eric Sodomka*

Can We Work around Numerical Methods? An Insight, *Sandeep Chandana and Rene V. Mayorga*

Local Consistency in Junction Graphs for Constraint-Based Inference, *Le Chang and Alan K. Mackworth*

RL-CD: Dealing with Non-Stationarity in Reinforcement Learning, *Bruno C. da Silva, Eduardo W. Basso, Ana L. C. Bazzan, and Paulo M. Engel*

Making Autonomous Intersection Management Backwards-Compatible, *Kurt Dresner and Peter Stone*

Exploring GnuGo's Evaluation Function with a SVM, *Christopher Fellows, Yuri Malitsky, and Gregory Wojtaszczyk*

Robot Self-Recognition Using Conditional Probability-Based Contingency, *Kevin M. Godby and Jesse A. Lane*

Multiclass Support Vector Machines for Articulatory Feature Classification, *Brian Hutchinson and Jianna Zhang*

Further Investigations into Regular XORSAT, *Matti Järvisalo*

SemNews: A Semantic News Framework, *Akshay Java, Tim Finin, and Sergei Nirenburg*

KDMAS: A Multi-Agent System for Knowledge Discovery via Planning, *Li Jin and Keith Decker*

Kernel Methods for Word Sense Disambiguation and Acronym Expansion, *Mahesh Joshi, Ted Pedersen, Richard Maclin, and Serguei Pakhomov*

Memeta: A Framework for Multi-Relational Analytics on the Blogosphere, *Pranam Kolari and Tim Finin*

Automatic Heuristic Construction for General Game Playing, *Gregory Kuhlmann and Peter Stone*

How Many Different "John Smiths", and Who Are They? *Anagha Kulkarni and Ted Pedersen*

Population and Agent Based Models for Language Convergence, *Kiran Lakkaraju and Les Gasser*

Boot Camp for Cognitive Systems, *Douglas S. Lange*

Algorithms for Control and Interaction of Large Formations of Robots, *Ross Mead and Jerry B. Weinberg*

Learning of Agents with Limited Resources, *Slawomir Nowaczyk*

Unsupervised Order-Preserving Regression Kernel for Sequence Analysis, *Young-In Shin*

Curiosity-Driven Exploration with Planning Trajectories, *Tyler Streeter*

Expectation-Based Vision for Self-Localization on a Legged Robot, *Daniel Stronger and Peter Stone*

Inter-Task Action Correlation for Reinforcement Learning Tasks, *Matthew F. Taylor and Peter Stone*

Doctoral Consortium Abstracts

A Value Theory of Meta-Learning Algorithms, *Abraham Bagherjeiran*

A Computational Model of Narrative Generation for Suspense, *Yun-Gyung Cheong*

Multi-Resolution Learning for Knowledge Transfer, *Eric Eaton*

Learning Models of Macrobehavior in Complex Adaptive Systems, *Andrew Fast*

Techniques for Generating Optimal, Robust Plans when Temporal Uncertainty is Present, *Janae N. Foss*

Automatic Summarization of Conversational Multi-Party Speech, *Michel Galley*

Privatizing Constraint Optimization, *Rachel Greenstadt*

Darshak - An Intelligent Cinematic Camera Planning System, *Arnav Jhala*

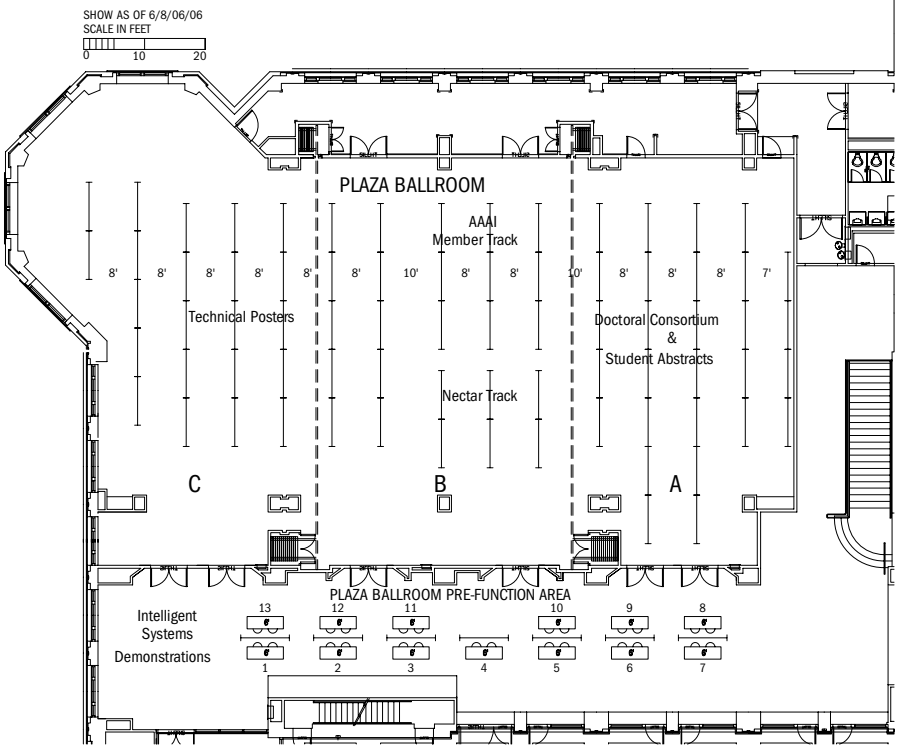
Cross System Personalization by Learning Manifold Alignments, *Bhaskar Mehta*

A Generalized Query Framework for Geospatial Reasoning, *Martin Michalowski*

Robust Autonomous Structure-based Color Learning on a Mobile Robot, *Mohan Sridharan*

Closest Pairs Data Selection for Support Vector Machines, *Chaofan Sun*

Action Selection in Bayesian Reinforcement Learning, *Tao Wang*



Floorplan, Seaport Hotel, Plaza Level

Exhibit Program

The exhibits are located in the Upper Level Atrium of the World Trade Center. Exhibits will take place Tuesday through Thursday, July 18–20 .

Exhibit Hours
Tuesday, July 18, 9:00 AM – 6:00 PM
Wednesday, July 19, 9:00 AM – 6:00 PM
Thursday, July 20, 9:00 AM – 12:00 PM

Exhibitors

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Intelligent Systems Demonstrations

The Intelligent Systems Demonstrations program will take place in the Plaza Ballroom Foyer of the Seaport Hotel on Wednesday, July 19, from 5:30 – 9:30 PM.

Continuing advances in AI research have made it possible to develop intelligent systems in a wide range of application areas. The AAAI-06 Intelligent Systems Demonstrations program showcases state-of-the-art AI implementations and provides AI researchers with an opportunity to show applications of their research in action. The program is intended to highlight innovative contributions to the science of AI with an emphasis on the benefits to be gained from developing and using implemented systems in AI research.

This year's demonstrations cover an impressive range of domains: web services, game playing, information extraction, trading, semantic web, music generation, intelligent tutors, and more. System builders will be on hand to present their work. All that is needed to make this evening a big success is your active exploration of these interactive systems!

Table #6

An End-to-end Supervised Target-Word Sense Disambiguation System

Mahesh Joshi, Serguei Pakhomov, Ted Pedersen, Rich Maclin and Christopher Chute, University of Minnesota, Duluth and Mayo College of Medicine

We present an extensible supervised Target-Word Sense Disambiguation system that leverages upon GATE (General Architecture for Text Engineering), NSP (Ngram Statistics Package) and WEKA (Waikato Environment for Knowledge Analysis) to present an end-to-end solution that integrates feature identification, feature extraction, preprocessing and classification.

Table #8

Factored MDP Elicitation and Plan Display

Krol Kevin Mathias, Casey Lengacher, Derek Williams, Austin Cornett, Alex Dekhtyar, and Judy Goldsmith, University of Kentucky

Our demo individualizes plans for a conference day. The user provides preferences and steps through the plan, seeing predicted satisfaction outcomes of the suggested action. She can explore an unrecommended action, update preferences, or edit preference and planning domains, and then request a replan.

Table #2

An Interactive Constraint-Based Approach to Minesweeper

Ken Bayer, Josh Snyder, and Berthe Y. Choueiry, University of Nebraska-Lincoln

We present a Java applet that uses Constraint Processing (CP) techniques to assist a human in playing the popular game Minesweeper. Our goal is to illustrate the power of CP techniques to model and solve combinatorial problems in a context accessible to the general public.

Table #4

LOCATE Intelligent Systems Demonstration: Adapting Help to the Cognitive Styles of Users

Jack L. Edwards and Greg Scott, AI Management and Development Corporation

This demonstration shows adaptive aiding in a workspace design software tool called LOCATE. Demonstrated will be its ability to classify new users according to Wholist-Analytic and Verbal-Imagery-Kinesthetic cognitive styles, with attendant individualized help. Also demonstrated will be its ability to adapt by tracking user activity to refine its User Model and accommodate user-preferred styles of help.

Table #11

Music Plus One — A Real-Time System for Automatic Orchestral Accompaniment

Christopher Raphael, Indiana University

We demonstrate a system that provides flexible and responsive non-improvisatory musical accompaniment for a live soloist. The system hears the soloist with a hidden Markov model, while a Gaussian belief network models the musical interpretation and predicts future evolution. Live audio is generated by phase-vocoding a prerecorded accompaniment.

Table #9

Phoebus: A System for Extracting and Integrating Data from Unstructured and Ungrammatical Sources

Matthew Michelson and Craig A. Knoblock, University of Southern California / Information Sciences Institute

The Phoebus demonstration allows accurate querying and integration of unstructured sources, such as online classifieds and auctions. Our example uses, www.craigslist.org, letting users search for cars, even when the post lacks attributes, such as the make, or contains spelling mistakes. Furthermore, Phoebus can automatically link the listings with an outside source, such as MSN Autos.

General Game Playing Competition

The General Game Playing Competition will take place Monday through Wednesday, July 17-19, in the Harborside room, Upper Level, World Trade Center.

General game players are systems able to accept declarative descriptions of arbitrary games at "runtime" and able to use such descriptions to play those games effectively without human intervention. Unlike specialized game players, such as Deep Blue, general game players cannot rely on algorithms designed in advance for specific games. General game playing performance requires intelligence on the part of the game player and not just intelligence on the part of the programmer of the game player. In order to perform well, general game players must incorporate various Artificial Intelligence technologies, such as knowledge representation, reasoning, learning, and rational decision making; and these capabilities have to work together in integrated fashion. While general game playing is a topic with inherent interest, work in this area has practical value as well. The underlying technology can be used in a variety of other application areas, such as business process management, electronic commerce, and military operations.

The Competition

The AAAI competition is designed to test the abilities of general game playing systems by comparing their performance on a variety of previously unseen games. The 2006 competition consists of four rounds of matches held during May-July 2006, with the last round and a championship match held in Boston at AAAI. Over the four rounds, each general game player will play approximately 80 matches, and the combined scores from these matches will determine the finalists in the championship match. The winner of the championship match will be the winner of the competition, and the programmer(s) of the winning player will be awarded the $10,000 prize.

Entrants will play a wide variety of competitive and cooperative games, including single player games (Towers of Hanoi, Blocks World), two player games (such as Chess) and many-player games (e.g. Chinese Checkers). In some cases, the games may be exhaustively searchable in the time allowed; in other cases, this is not possible. General game players must handle all of these possibilities.

Note that, prior to the competition, players are told nothing about the games to be played. The rules of all games are transmitted to the players electronically at the beginning of each match. A general game playing system must be able to read the rules for each game, receive runtime information from the game manager, decide on appropriate moves, and inform the manager of its decisions.

Poker Competition

The Poker Competition will take place Monday through Wednesday, July 17–19, in the Dartmouth room on the Upper Level of the World Trade Center.

Recorded runs of a Texas Hold-Em game played at the University of Alberta, Canada will be shown and interactive demonstrations will be available for conference attendees to play against the bots. There will be a connection from the AAAI interface to Poker Academy showing all three bots on display. In addition, three academic posters will be on display from Monash University, Carnegie Mellon University, and the University of Alberta.

Table #12

Real-Time Interactive Learning in the NERO Video Game

Kenneth O. Stanley, The University of Central Florida, Igor Karpov, Risto Miikkulainen, and Aliza Gold, The University of Texas at Austin

In the NeuroEvolving Robotic Operatives (NERO) video game, the player trains a team of virtual robots for combat. The robots learn in real time through interacting with the player. The real-time NeuroEvolution of Augmenting Topologies (rtNEAT) method drives the robots' learning, making possible this new genre of video game.

Table #3

ScriptEase - Motivational Behaviors for Interactive Characters in Computer Role-Playing Games

Maria Cutumisu, Duane Szafron, Jonathan Schaeffer, Kevin Waugh, Curtis Onuczko, Jeff Siegel, and Allan Schumacher, University of Alberta

ScriptEase is a tool that allows authors with no programming experience to create interactive stories for computer role-playing games using design patterns that encapsulate frequent game scenarios. We show how ScriptEase can be used to generate intricate non-player character scripts that encapsulate motivational ambient and PC-interactive behaviors for BioWare Corp.'s Neverwinter Nights game.

Table #1

SEMAPLAN: Combining Planning with Semantic Matching to Achieve Web Service Composition

Rama Akkiraju, Biplav Srivastava, Anca-Andreea Ivan, Richard Goodwin, and Tanveer Syeda-Mahmood, IBM Research

We present SEMAPLAN, a novel system to compose Web services in the presence of semantic ambiguity by combining semantic matching and AI planning algorithms. We use cues from domain-independent and domain-specific ontologies to compute an overall semantic similarity score between ambiguous terms. This semantic similarity score is used by AI planning algorithms to guide the searching process when composing services. Experimental results indicate that planning with semantic matching produces better results than planning or semantic matching alone. The solution is suitable for semi-automated composition tools, directory and asset browsers.

Table #5

SemNews: A Semantic News Framework

Akshay Java, Tim Finin, Sergei Nirenburg, University of Maryland Baltimore County

SemNews is a semantic news service that monitors different RSS news feeds and provides structured representations of the meaning of news. As new content appears, SemNews extracts the summary from the RSS description and processes it using OntoSem, which is a sophisticated text understanding system. The text meaning representations are translated and published in Semantic Web representation language OWL.

Table #7

Strategic Sales Management in an Autonomous Trading Agent for TAC SCM

Wolfgang Ketter, Eric Sodomka, Amrudin Agovic, John Collins, and Maria Gini, University of Minnesota

We present methods for an autonomous agent to predict price distributions and price trends in the customer market of the Trading Agent Competition for Supply Chain Management. We describe how these predictions can then be used by the agent to make strategic and tactical sales decisions.

Table #13

The Tactical Language and Culture Training System: A Demonstration

Andre Valente, W. Lewis Johnson and Hannes Vilhjálmsson, University of Southern California / Information Sciences Institute

The Tactical Language and Culture Training System (TLTS) helps learners acquire basic communicative skills in foreign languages and cultures. Learners practice social interaction in a simulated village, accompanied by a virtual aide who can provide assistance and guidance. Learners can speak and choose gestures on behalf of their character in the game.

Table #10

Using the Semantic Web to Integrate Ecoinformatics Resources

Cynthia Simms Parr, Andriy Parafiynyk, Joel Sachs, Rong Pan, Lushan Han, Li Ding, Tim Finin, University of Maryland Baltimore County, and David Wang, University of Maryland College Park

We demonstrate an end-to-end use case of the semantic web's utility for synthesizing ecological data. In particular, we describe ELVIS (the Ecosystem Location Visualization and Information System) and Triple Shop. ELVIS is a suite of tools for predicting food webs for a given location. Triple Shop is a SPARQL query tool which uses our semantic web search engine, Swoogle, to tranform the semantic web into a potential dataset for answering arbitrary queries.

Fifteenth Annual AAAI Mobile Robot-Competition & Exhibition

The Fifteenth Annual Robot Competition and Exhibition will be held on the mezzanine and atrium lobby areas of the World Trade Center. The event brings together over 20 teams from universities, colleges, and research laboratories to compete and to demonstrate cutting edge, state of the art research in robotics and AI.

Scavenger Hunt

Robots search the conference hotel area for a checklist of given objects that may be distinguished using vision or other sensors. This task will require robots to reason about their spatial surroundings in a natural and dynamic environment. Both completely autonomous and shared-autonomy systems are welcome to complete, with each system judged based on the computational spatial reasoning it exhibits.

Human Robot Interaction

The Human-Robot Interaction event focuses on human-robot interaction. It includes a more structured version of last year's Open Interaction Event as well as the past Robot Challenge. Teams are asked to submit entries of their own tasks for any of seven interaction categories. The first six demonstrate particular aspects of human-robot interaction, while the seventh is an integration category, for which only tasks are eligible that demonstrate aspects from at least three of the first six categories.

The Robot Exhibition

The mission of the Robot Exhibition is twofold. First, to demonstrate state of the art research in a less structured environment than the competition events. The exhibition gives researchers an opportunity to showcase current robotics and embodied-AI research that does not fit into the competition tasks. Second, the exhibition provides a venue for faculty using robotics in education to present their approaches and experiences. We encourage participation from all areas.

Workshop

The robot events culminate with a workshop where participants describe the research behind their entries.

General Cochairs

Paul Rybski (Carnegie Mellon University)
Jeffrey Forbes (Duke University)

Scavenger Hunt Cochairs

Zach Dodds (Harvey Mudd University)
Paul Oh (Drexel University)

Human Robot Interaction Chair
Matthias Scheutz (University of Notre Dame)

Exhibition Chair
Debra Burhans (Canisius College)

Mobile Robot Workshop
Bob Avanzato (Penn State Abington)

Robot Teams

Bridgewater State College
Team: Bridgewater wanderer
Contact: John F. Santore
Event: Scavenger Hunt

Brooklyn College, City University of New York
Team: Educational Robotics
Team members: Elizabeth Sklar, Simon Parsons, M.Q. Azhar, Valerie Andrewlevich and A. Tuna Ozgelen
Event: Exhibition
Our "Educational Robotics" exhibit will feature a number of efforts to engage university students with robotics through teaching and outreach. Teaching runs the gamut from undergraduate introductory computer science to graduate-level artificial intelligence courses. Outreach involves collaborations with students and New York City public schools. We will highlight a range of curricula and team-based projects, which are often based on challenges from RoboCupJunior.

Bryn Mawr College
Team: Pyro Robotics
Contact: Doug Blank
Event: Scavenger Hunt and Exhibition

Canisius College
Team: Griffins
Team members: Debra Burhans, R. Mark Meyer, Pat VanVerth, Camille Moreno, Ben Rood, Andre Nelson, Nick Lahens, and David Puehn
Events: Scavenger Hunt and Exhibition
In the exhibition we will present several different educational projects that use Lego Mindstorms including a simulator that is currently under development. For the Scavenger Hunt we will be using an Aibo controlled through the Pyro framework. We will also demonstrate a realization of the "Wumpus World."

Canisius College & Hamilton College
Team: Snarpy
Team members: Debra Burhans and Alistair Campbell
Event: Exhibition
We will demonstrate robots that use SNePS, a powerful KR&R, for the knowledge level brain and Pyro for connecting to either a simulated or an actual robot (Aibo). These represent two levels of a five-level cognitive architecture, GLAIR, that we have implemented using SNePS, Lisp, C, Python, and Pyro.

Carnegie Mellon University
Team: Claytronics
Contact: Seth Goldstein
Event: Exhibition

Carnegie Mellon University
Team: CMAssist
Team members: Paul E. Rybski, Kevin Yoon, Jeremy Stolarz, and Manuela Veloso
Event: Exhibition
The CMAssist RoboCup@Home team from Carnegie Mellon University studies how robots can best work around, interact with, and assist people in natural indoor environments. Specific research goals include recognition and detection of humans and their activities as well as using those detected human activities to learn about the environment.

The College of New Jersey
Team: TCNJ Interactive Robot Team
Contact: Yunfeng Wang
Events: Human Interaction and Exhibition

Drexel University
Team: DIAS
Contact: Paul Oh
Event: Exhibition
Drexel Integrated ATV System will showcase a drive-by-wire ATV. This dual-mode ATV can be operated normally with a driver, or controlled wireless by radio-control or via GPS waypoints. Also showcased is a 6-foot robotic helicopter.

Harvard University
Team: Collective Construction by Lego Robots
Contact: Radhika Nagpal
Event: Exhibition
Social insects, such as ants and termites, collectively build large and complex structures, with many individuals following simple rules and no centralized control or planning. Our goal is to design systems for automating construction that are similarly adaptive and robust, but build what we want.

Harvey Mudd College
Team: HMC Escher
Team members: Ben Tribelhorn and Zachary Dodds
Events: Scavenger Hunt and Exhibition
This entry features the ubiquitous iRobot Roomba. We have mounted a laptop and a camera to create a very powerful and very low-cost platform for teaching and experimenting with mobile robotics.

Idaho National Laboratory
Team: INL Robot and Human Systems Group
Contact: Douglas Few
Event: Exhibition

Kansas State University
Team: KSU Willie
Contact: David Gustafson
Event: Scavenger Hunt

Rowan University
Team: Rowan IMAPS
Contact: Hong Zhang
Event: Exhibition

Tulane University
Team Name: Tulane Robotics
Contact: Sheila Tejada
Event: Exhibition

University of California, Los Angeles
Team: UCLA HOBOS
Team members: Kamil Wnuk, Brian Fulkerson, and Jeremi Sudol
Events: Scavenger Hunt and Exhibition
The HOBOS (highly organized bunch of scavengers) system is a scalable multi-agent system consisting of Evolution ER1 laptop robots capable of monocular vision. Each robot will demonstrate the ability to localize itself, recognize a set of objects, and communicate with peer robots to share location and coordinate exploration of the search space.

University of Manitoba
Team: Keystone Scavengers
Team Members: Jacky Baltes and Brian McKinnon
Events: Scavenger Hunt and Exhibition
We are working with stereo vision as the sole form of perception for Urban Search and Rescue (USAR) vehicles. Initial results demonstrate the potential of this system for USAR and other challenging domains.

University of Notre Dame
Team: ND-RUDY
Contact: Paul Schermerhorn
Event: Human Interaction

University of Sherbrooke
Team: LABORIUS
Team members: François Michaud, Dominic Létourneau, Maxime Fréchette, Éric Beaudry, Carle Côté, and Froduald Kabanza
Events: Human Interaction and Exhibition
Spartacus, our robot entry, integrates planning, sound source localization, tracking and separation, message reading, speech recognition and generation, and autonomous navigation capabilities onboard a custom-made interactive robot. Special focus is put on coordinating audio, visual, and graphical capabilities, monitoring the impacts of the capabilities in usage by the robot, and inferring the robot's intentions and goals.

Washington University in St. Louis
Team: Lewis
Contact: Bill Smart
Events: Human Interaction, Scavenger Hunt and Exhibition

Western Washington University
Team: WWU Robots
Team members: Natasa Lazetic, Ben Greear, and Angelina Greear
Event: Exhibition
LEGO Mindstorms robot sorts objects (into bins) based on their color features, using artificial neural networks. Objects to be sorted are LEGO pieces, fruit, and so on. Lighting conditions will also be varied to test versatility of the robot.

General Information

Admission

Each conference attendee will receive a name badge upon registration. This badge is required for admittance to the technical, tutorial, IAAI and workshop programs. Tutorial and Workshop attendees must present their attendance tickets for admittance to the rooms. Tutorial attendees will also receive syllabi tickets, which may be redeemed for the syllabi volumes. Smoking, drinking and eating are not allowed in any of the technical, tutorial, workshop or IAAI sessions.

Banking

There is an ATM in the front lobby of the Seaport Hotel as well as by the Parking Cashier in the hotel. An ATM is also located at the entrance to the Commonwealth Exhibit Hall on the Harbor Level and on the Mezzanine Level across from the Amphitheatre in the World Trade Center.

Sovereign Bank

Sovereign Bank has two nearby locations.

200 Seaport Boulevard
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Thursday-Friday, 9 AM – 5 PM
1.1 miles away

75 State Street
Boston MA 02210
617-345-8004
Monday–Friady, 8:30 AM – 5 PM
0.2 miles away

Business Centers

The Seaport Hotel and Seaport World Trade Center can assist you with business, entertainment or travel arrangements through the business center and resourceful, multilingual Concierge. Hours of operation are Monday – Friday, 8:00 AM – 5:00 PM; Saturday and Sunday (with advanced notice)

Seaport Hotel Business Center

One Seaport Lane
Boston, MA 02210
Voice: 617-385-4553
Fax: 617-385-4526

World Trade Center Business Center

200 Seaport Boulevard, Suite 301
Boston, MA 02210
Voice: 617-385-4349
Fax: 617-385-5491

FedEx Kinko's

Boston MA BCEC
415 Summer Street
Boston, MA 02210
Voice: 617-954-2203
Fax: 617-954-2204
Email: usa1323@fedexkinkos.com

Career Information

A bulletin board for job opportunities in the artificial intelligence industry will be made available in the registration area, on the upper level of the World Trade Center. Attendees are welcome to post job descriptions of openings at their company or institution.

Handicapped Facilities

The Seaport Hotel and World Trade Center is equipped with handicapped facilities.

Housing

For information regarding hotel reservations, please contact hotels directly. For student housing, please contact Boston University at 617-353-8519.

Internet Access

The Seaport World Trade Center Complex offers complimentary wireless Internet access in public areas and all guest rooms, using either a laptop or handheld that is Wi-Fi 802.11b wireless enabled (for employer provided VPN access). A Wi-Fi 802.11b wireless networking card for most laptops and handhelds can be purchased at the Seaport Hotel gift shop if needed.

Public Space Wireless Instructions:

Leave your wireless network name (SSID) blank or set it to "Seaport" — minus the quotation marks — to gain access. Network encryption and authentication will not work; therefore, if your existing wireless profile encryption key (WEP) is enabled, either disable it or create a new profile without encryption. If you have difficulty, please refer to your wireless network card or operating system documentation for specific instructions on how to configure your device. You will need a standard Internet-ready browser such as Internet Explorer or Netscape Navigator on any operating system. With a properly installed wireless network card just launch your browser and connect to the Internet. For detailed information on Wi-Fi, visit www.wi-fi.org.

Please Note: The Seaport Hotel and World Trade center strongly recommends that their customers take measures to ensure the security of their Internet connections. Like any high-speed service, including DSL and cable, the Seaport wireless network is not inherently secure. Although they support customer-initiated security solutions such as virtual private networks (VPN), encryption and personal firewalls, they do not provide these solutions for their customers and cannot guarantee or otherwise be responsible for their effectiveness. It is the customer's responsibility to adopt security measures that are best suited to their situation.

List of Attendees

A list of preregistered attendees of the conference will be available for review at the AAAI Desk in the registration area. Attendee lists will not be distributed.

Parking

The Seaport Garage is located beneath the Seaport World Trade Center West, Seaport World Trade Center East, and the Seaport Hotel. The following rates are in effect: 0–1 hour, $9; 1–12 hours, $17; 12–24 hours, $27. Seaport Hotel overnight guest rates are $36 per night for valet service and $28 per night for self-park.

Printed Materials

Display tables for the distribution of promotional and informational materials of interest to conference attendees will be located in the registration area.

Proceedings CD

Each technical registrant will receive a ticket with the registration materials for one copy of the conference CD. Tickets can be redeemed at the proceedings distribution center in the Dartmouth room, located on the upper level of the World Trade Center during registration hours. All tickets must be redeemed onsite by Thursday, July 20 at 11:00 AM. AAAI cannot mail CDs to registrants after the conference.

Restaurants at the World Trade Center and Seaport

Bakery Café on the Mezzanine level in the World Trade Center and on the lobby level of the Seaport Hotel is open for breakfast and lunch daily 7:00 AM – 2:00 PM. *Starbucks* is located in the lobby of the Seaport Hotel and offers gourmet blended coffee and other beverages, assorted baked goods, pastries, and light lunch items; open daily 6:30 AM – 5:30 PM. *Sebastian's Café* on the Mezzanine level in the World Trade Center is open for daily lunch specials that include soups and sandwiches; open weekdays 11:30 AM – 2:00 PM. *Aura Restaurant and Bar,* an award winning restaurant in the Seaport Hotel serves breakfast, lunch and dinner daily.

Dunkin' Donuts is conveniently located on the lower level of Seaport World Trade Center, adjacent to the *Spirit of Boston* dock.

Located in the lobby of Seaport World Trade Center East, *Fresh City* provides an upbeat and attractive environment combined with fast service and the freshest food. Fresh City is open Monday through Friday, 6:30 AM to 4:00 PM.

Shipping

The Seaport Hotel can assist with small deliveries, and can provide shipping labels for FedEx and UPS.

Transportation

For complete transportation options and costs in the Boston area, please see www.seaportboston.com/SeaBos/Home/RightPage.asp?PID=7463673

Taxi

Taxi service is available at the Seaport Hotel. Additionally, water taxis are available

from the Seaport WTC to the Logan Airport marine terminal where free ground transportation awaits to all airport terminals. Rowes Wharf Water Transport picks up at the MBTA Dock on the west side of the Seaport WTC by Dunkin Donuts (between the Spirit of Boston and Spirit Elite). City Water Taxi also provides water taxi service (details follow). The City Water Taxi dock is located at the east apron of WTC, next to Sovereign Bank.

Shuttle Service

The Seaport World Trade Center complex provides free shuttle service to North Station and the Financial District. Continuous service is provided during morning and evening commute periods from the Seaport World Trade Center complex to State Street and North Station. Shuttles pick-up passengers curbside and depart either when a shuttle is filled to capacity or when an approaching vehicle is close behind.

The Seaport Express

The Seaport Express provides water shuttle service between the Seaport World Trade Center and Central Wharf (at the New England Aquarium, near the MBTA Blue Line Aquarium Stop). Daily scheduled service is $1.50 each way, and MBTA Combo Plus and Higher passes are accepted as fare for the scheduled service.

City Water Taxi

Destinations include: Logan Airport, Moakley Federal Courthouse, World Trade Center Complex, Bank of America Pavilion, Black Falcon Terminal, Long Wharf, Burrough's Wharf in the Historic North End, North Station's Lovejoy Wharf, Fan Pier / Moakley Courthouse, Marginal Street / East Boston, and Charlestown Navy Yard (Pier 4). Pick-up and drop-off for 255 State Street behind the Marriott. To request a pick up, call City Water Taxi at (617) 422-0392, or call on the two way radio located at the dock.

Rowes Wharf Water Transport

Available year round, destinations include Logan Airport, Rowes Wharf, Moakley Federal Courthouse, World Trade Center Complex, Bank of America Pavilion, Black Falcon Terminal, Central Wharf (Aquarium), North End, and Charlestown Navy Yard.

To request a pick up, call Rowes Wharf Water Transport at 617-406-8584 or call when you get to the dock.

City Transit Systems

The MBTA Silver Line provides service from the WTC Station to Logan International Airport terminals every 10 minutes during the weekday and every 15 minutes during the weekend. Additionally, bus routes 448, 449, and 459 provide service to Logan Airport from the World Trade Center Boston/Seaport District via the Ted Williams Tunnel/I-90 West. Please visit the MBTA website (www.mbta.com) to learn more about schedule information.

The MBTA Silver Line is a new, rubber-tired, dual-mode service for the Seaport District and includes a one-mile tunnel from South Station to Moakley Federal Courthouse and the Seaport World Trade Center complex, connecting the Seaport District with Boston's transit network.

Boston's Famous "T"

Provides quick, convenient, and reliable connections throughout the metropolitan area. The Red, Orange, Blue, and Green lines provide connections downtown that can be accessed at the MBTA North Station and MBTA State Street Station (via the World Trade Center Complex Shuttle) and South Station (via the MBTA Silver Line Waterfront).

Registration

Conference registration is located on the upper level of the World Trade Center, beginning Sunday, July 16. Registration hours are:

Sunday, July 16	7:30 AM - 6:00 PM
Monday, July 17	7:30 AM - 6:00 PM
Tuesday, July 18	8:00 AM - 5:30 PM
Wednesday, July 19	8:00 AM - 5:30 PM
Thursday, July 20	8:30 AM - 12:00 PM

Only checks drawn on U.S. banks, U.S. currency, VISA, MasterCard, American Express, and traveler's checks will be accepted. We cannot accept foreign currency or checks drawn on foreign banks.

Registration Fees

The AAAI-06/IAAI-06 technical program registration includes admission to all technical paper and poster sessions, invited talks, exhibits, demos, and competitions, the opening reception, and a copy of the AAAI-06/IAAI-06 conference proceedings on CD (the hardcopy proceedings is available at additional cost). Students must present proof of full-time student status to qualify for the student rate. Onsite technical program fees are as follows:

Technical Registration Fees

Regular Member	$765
Regular Nonmember	$935
Student Member	$295
Student Nonmember	$395

AAAI Platinum Fees

(Includes one year new or renewal membership in AAAI)

Regular US/Canada	$860
Regular International	$900
Student US/Canada	$330
Student International	$370

Tutorial Forum

Includes admittance to up to four consecutive tutorials and the accompanying Tutorial Forum Notes. In addition to the fee below, all tutorial participants must register for the AAAI-06/IAAI-06 technical program.

Regular	$150
Student	$40

Workshop Program

Includes admittance to one workshop and the accompanying technical report. In addition to the fee below, all workshop participants must register for the AAAI-06/IAAI-06 technical program.

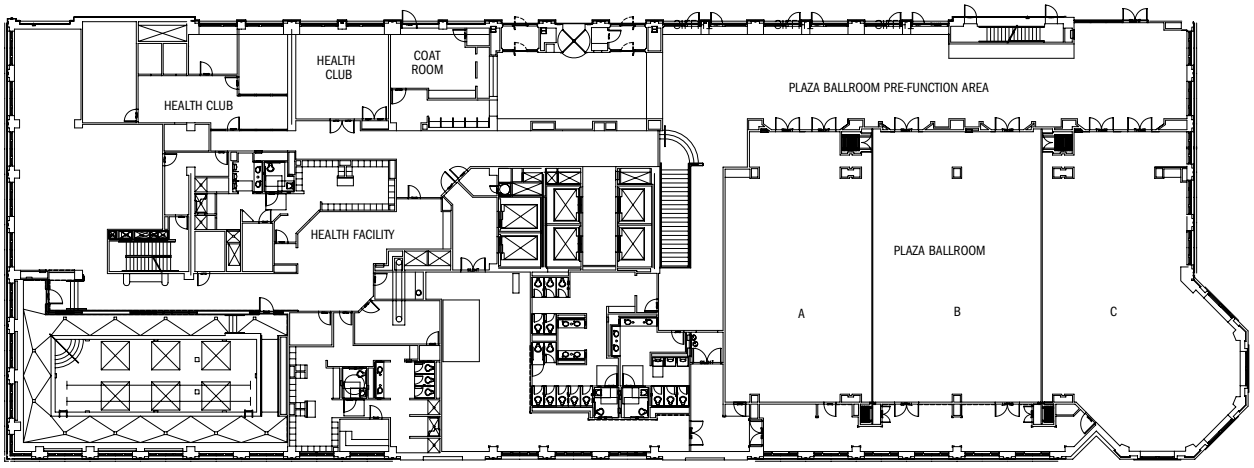
Regular	$75 ($150 for 2-day)
Student	$35 ($70 for 2-day)

Opening Reception (Monday, July 17)

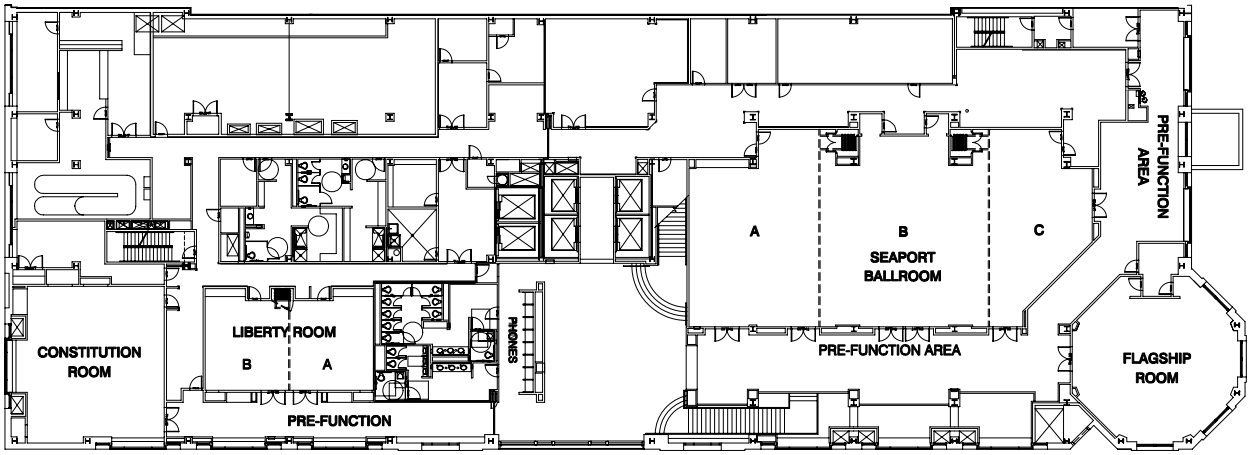
Adult Guest	$40.00
Child	$10.00

Poster/Demo Session Reception (Wednesday, July 19)

Adult Guest	$30.00
Child	$10.00



Plaza Level



Mezzanine Level

Floorplan, The Seaport Hotel

Tutorial Forum Syllabi

Extra copies of AAAI-06 tutorial syllabi volume will be available for purchase in AAAI onsite registration area, beginning Tuesday, July 18. Supplies are limited. The cost is $25.00 per volume (includes all tutorials). Preregistration tutorial syllabi tickets may be redeemed at the Proceedings distribution center in Dartmouth on the Upper level of the World Trade Center during registration hours. All tickets must be redeemed onsite by Thursday, July 20 at 11:00 AM. AAAI cannot mail books to registrants after the conference.

Volunteer Station

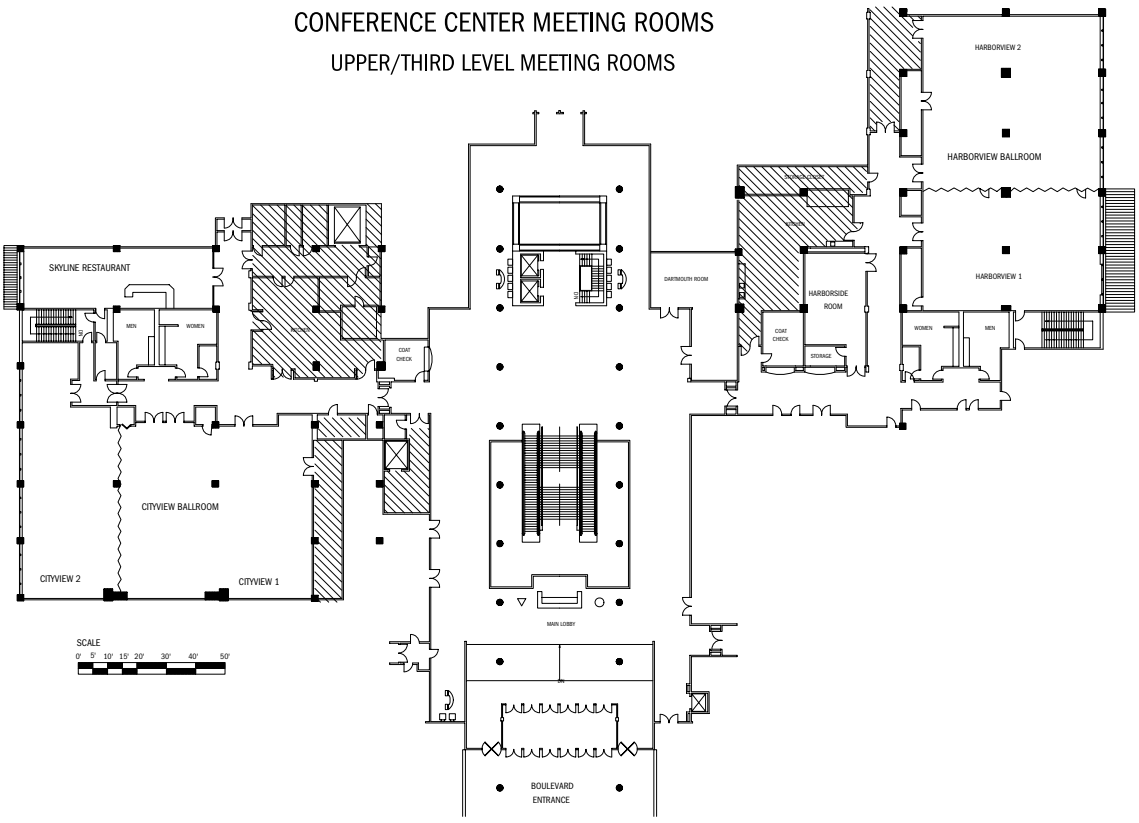
The volunteer station will be located in the onsite registration area. All volunteers are required to sign in prior to their shift, and sign out when they finish.

Disclaimer

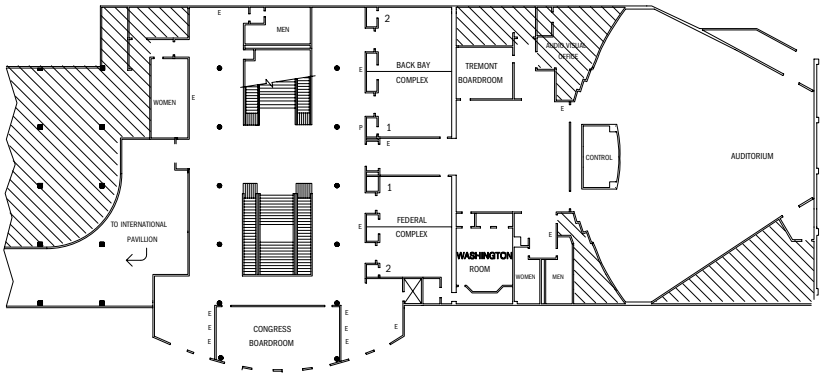
In offering the Seaport Hotel and World Trade Center, Boston University, Freeman, Projection Presentation Technology, Logan International Airport, and all other service providers (hereinafter referred to as "Supplier(s)" for the National Conference on Artificial Intelligence and the Innovative Applications Conference), the American Association for Artificial Intelligence (AAAI) acts only in the capacity of agent for the Suppliers that are the providers of the service. Because AAAI has no control over the personnel, equipment or operations of providers of accommodations or other services included as part of the AAAI-06/IAAI-06 program, AAAI assumes no responsibility for and will not be liable for any personal delay, inconveniences or other damage suffered by conference participants which may arise by reason of (1) any wrongful or negligent acts or omissions on the part of any Supplier or its employees, (2) any defect in or failure of any vehicle, equipment or instrumentality owned, operated or otherwise used by any Supplier, or (3) any wrongful or negligent acts or omissions on the part of any other party not under the control, direct or otherwise, of AAAI.

CONFERENCE CENTER MEETING ROOMS

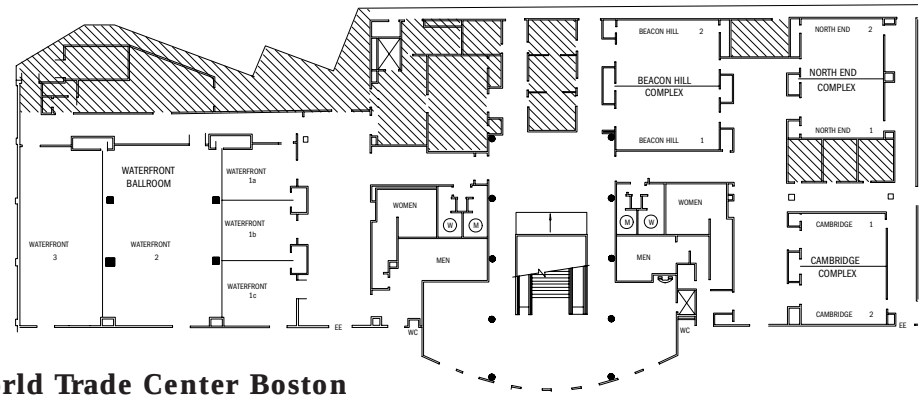
UPPER/THIRD LEVEL MEETING ROOMS



MEZZANINE LEVEL MEETING ROOMS



FIRST LEVEL MEETING ROOMS



Floorplan, World Trade Center Boston

Photo courtesy Tom Ryan, Tourism Vancouver

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