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Conference Program

**Twenty-Second AAI Conference on
Artificial Intelligence (AAAI-07)
Nineteenth Conference on Innovative
Applications of Artificial Intelligence (IAAI-07)**

July 22 – 26, 2007
Hyatt Regency Vancouver
Vancouver, British Columbia, Canada

*Sponsored by the
Association for the Advancement of Artificial Intelligence*

Cosponsored by the National Science Foundation, Microsoft Research, Michael Genesereth, Google, Inc., NASA Ames Research Center, Yahoo! Research Labs, Intel, USC/Information Sciences Institute, AICML/University of Alberta, ACM/SIGART, The Boeing Company, IISI/Cornell University, IBM Research, and the University of British Columbia

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Yolanda Gil (USC/Information Sciences Institute)

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Adele Howe (Colorado State University)

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Special Track on Integrated Intelligence Cochairs

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Sebastian Thrun (Stanford University)

Student Participation Associate Cochairs

Martin Michalowski and Matt Michelson
(USC/Information Sciences Institute)

Technical Program Software Chair

Ken Barker (University of Texas at Austin)

A complete listing of the AAAI-07 and IAAI-07 Program Committee members appears in the conference proceedings.

Sponsoring Organizations

AAAI gratefully acknowledges the generous contributions of the following organizations to AAAI-07:

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Awards

All AAAI-07, IAAI-07, AAAI Special Awards, and the IJCAI-JAIR Best Paper Prize will be presented Tuesday, July 24, 8:30–9:00 AM, in the Regency Ballroom on the Convention Level.

AAAI-07 Awards

Presented by Robert C. Holte and Adele Howe, AAAI-07 program chairs.

AAAI-07 Outstanding Paper Awards

PLOW: A Collaborative Task Learning Agent
James Allen, Nathanael Chambers,
George Ferguson, Lucian Galescu, Hyuckchul Jung, Mary Swift, and William Taysom
Thresholded Rewards: Acting Optimally in Timed, Zero-Sum Games
Colin McMillen and Manuela Veloso

AAAI-07 Outstanding Senior Program Committee Member Award

Gerhard Brewka (University of Leipzig)

AAAI-07 Outstanding Program Committee Member Awards

Kiri Wagstaff (Jet Propulsion Laboratory)
Honorable Mention
Malte Helmert (Albert-Ludwigs-Universität Freiburg)

IAAI-07 Awards

Deployed Applications Awards

The eight IAAI-07 Deployed Application Awards will be announced by the IAAI-07 chair William Cheetham and cochair Mehmet Goker. Please see the schedule for paper titles. Certificates will be presented during paper sessions.

Robert S. Engelmores

Memorial Award and Lecture

The Robert S. Engelmores Award is sponsored by IAAI-07 and *AI Magazine*, and will be presented by William Cheetham and Mehmet Goker, IAAI-07 chair and cochair, and David B. Leake, editor-in-chief, *AI Magazine*. The award and lecture was established in 2003 to honor Dr. Engelmores's extraordinary service to AAAI, *AI Magazine*, and the AI applications community, and his contributions to applied AI. The 2007 award will be presented to Oren Etzioni, professor of computer science at the University of Washington, for longstanding technical and entrepreneurial contributions to artificial intelligence, including seminal research on AI on the web and the deployment of AI technologies in high-impact applications. The lecture will be held Wednesday, July 25, 10:20 AM, in Regency B.

AAAI Special Awards

The AAAI 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 2007 AAAI Classic Paper award honors the authors of the paper deemed most influential from the Seventh National Conference on Artificial Intelligence, held in 1988 in St. Paul, Minnesota.

Bayesian Classification

Peter Cheeseman, Matthew Self, Jim Kelly, Will Taylor, Don Freeman

Honorable Mention

A Robust, Qualitative Method for Robot Spatial Learning

Benjamin J. Kuipers, Yung-Tai Byun

Distinguished Service Award

The AAAI Distinguished Service award recognizes one individual each year for extraordinary service to the AI community. The 2007 recipient is Tom Mitchell, Fredkin Professor of AI and Machine Learning, Carnegie Mellon University, for outstanding service to artificial intelligence and computer science, including seminal intellectual and service contributions to machine learning and leadership at Carnegie Mellon University and in AAAI, NRC, and AAAS.

IJCAI-JAIR Best Paper Prize

The IJCAI-JAIR Best Paper Prize, which will be presented by Toby Walsh, editor-in-chief of *JAIR*, is awarded to an outstanding paper published in *JAIR* in the preceding five calendar years. The award is presented to:

Efficient Solution Algorithms for Factored MDPs

C. Guestrin, D. Koller, R. Parr, and S. Venkataraman (2003).
JAIR 19(2003), 399–468

Honorable Mention

Additive Pattern Database Heuristics
A. Felner, R. E. Korf, and S. Hanan.
JAIR 22(2004), 279–318

2007 AAAI Fellows Recognition

Each year, the Association for the Advancement of 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 2007, who will be honored during the annual Fellows dinner on Tuesday, July 24:

- Pierre F. Baldi (University of California, Irvine)
- Adnan Y. Darwiche (University of California, Los Angeles)
- Hector A Geffner (ICREA and Universitat Pompeu Fabra)
- Carla P. Gomes (Cornell University)
- Russell Greiner (University of Alberta)
- Stephen F. Smith (Carnegie Mellon University)
- Milind Tambe (University of Southern California)

Presidential Address



Alan K. Mackworth

(Professor of Computer Science, University of British Columbia and Canada Research Chair in AI)

Tuesday, July 24, 9:00 – 10:00 AM

Regency Ballroom, Hyatt Regency Vancouver

Artificial intelligence focuses on agents carrying out tasks in an environment. Consider the evolution of the agent-task-environment triple. In good old fashioned AI and robotics (GOFAIR), a single agent typically solved a puzzle in a fully-observable, fully-predictable world. Constraint-based agents were initially proposed in that paradigm. Robot soccer, developed in our lab in 1991, caught on as an international challenge task. The community had to deal with multi-agent, dynamic, online, situated, embodied activity in a partially-observable, partially-predictable world. We evolved new constraint-based hybrid agent controllers for such tasks. The main challenge is to design agents that are both proactive and reactive. As our systems migrate into the real world, critical issues of reliability, trust and ethics must be addressed. For example, making ethical choices about our mutual interactions with robots presupposes that we are able to foresee the possible future effects of that interaction (or inaction). This presupposition puts strong requirements on the design space for robot architectures. We cannot use ad hoc or opaque models of robot structure or function. We need languages for modeling the constraints on an agent's dynamics (where we may take "dynamics" quite abstractly) and languages for writing constraint-based behavioral specifications. Moreover, we need techniques for determining if an agent will, or is likely to, satisfy its specifications. Some of the exciting new applications of our science, such as assistive technology, require that we pay particular attention to these concerns of reliability and trust.

AAAI President Alan Mackworth is a professor of computer science and Canada Research Chair in Artificial Intelligence at the University of British Columbia. He works on constraint-based computational intelligence with applications in vision, robotics, and situated agents, and is a pioneer in the areas of constraint satisfaction, robot soccer, and constraint-based agents. He has published over 100 scientific papers, and coauthored *Computational Intelligence: A Logical Approach*. In addition, he has served as president of IJCAI and CSCSI. He was the founding director of the UBC Laboratory for Computational Intelligence.

Social Events

Opening Reception

The AAAI-07 Opening Reception will be held Monday, July 23, 6:00–7:00 PM in the Regency Ballroom of the Hyatt Regency Vancouver. 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 hors d'oeuvres and a no-host bar will be available. Admittance to the reception is free to AAAI-07 registrants. A \$30.00 per person fee (\$10.00 for children) will be charged for spouses and other nontechnical conference registrants.

AAAI-07 Poster / Demonstration Session

A conference-wide poster and demonstration session will be held on Wednesday, July 25, 6:30–10:00 PM and will feature AAAI-07 technical posters, Nectar posters, 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-07 registrants. A \$45.00 per person fee (\$10.00 for children) will be charged for spouses and other nontechnical conference registrants.

For information about the special competition awards, please see the section on AAAI-07 Competitions on page 18 of this program.

Workshop Program

Registration for a workshop requires a supplemental fee for AAAI-07 technical registrants. Individuals who do not wish to participate in any other AAAI-07 programs or events may elect the workshop only registration fee. Workshops will be held in the Hyatt Regency Vancouver.

Sunday and Monday, July 22–23

W2: Configuration

Organizers: Barry O'Sullivan, Klas Orsvam
Cypress, 34th Floor

W3: Evaluating Architectures for Intelligence

Organizers: Gal A. Kaminka, Catherina R. Burghart
Kensington, Fourth Floor

W5: Explanation-Aware Computing

Organizers: Thomas Roth-Berghofer, Stefan Schulz, David B. Leake
Seymour, 34th Floor
8:45 AM–4:30 PM Sunday,
9:15 AM–5:00 PM Monday

Sunday, July 22

W4: Evaluation Methods for Machine Learning II

Organizers: Chris Drummond, William Elazmeh, Nathalie Japkowicz, Sofus A. Macskassy
Regency A, Third Floor
9:00 AM–6:00 PM

W6: Human Implications of Human-Robot Interaction

Organizer: Ted Metzler
Brighton, Fourth Floor
8:30 AM–5:30 PM

W10: Preference Handling for Artificial Intelligence

Organizers: Jon Doyle, Judy Goldsmith, Ulrich Junker, Jérôme Lang
Regency B, Third Floor
8:30 AM–6:00 PM

W13: Spatial and Temporal Reasoning

Organizers: Hans W. Guesgen, Gerard Ligozat, Jochen Renz, Rita V. Rodriguez
Cavendish, Fourth Floor
9:00 AM–5:30 PM

Monday, July 23

W1: Acquiring Planning Knowledge via Demonstration

Organizers: Mark Burstein, Jim Hendler
Regency B, Third Floor
9:00 AM–5:00 PM

W7/W11: Joint Workshop on Intelligent Techniques for Web Personalization and Recommender Systems in E-Commerce

Organizers: Bamshad Mobasher, Sarabjot Singh Anand, Alfred Kobsa, Dietmar Jannach
Brighton, Fourth Floor
8:30 AM–5:30 PM

W8: Mobile Robot Workshop

Organizer: Jeffrey Forbes
Regency A, Third Floor
8:45 AM–3:45 PM

W9: Plan, Activity, and Intent Recognition (PAIR)

Organizers: Christopher Geib, David Pynadath
Constable, Fourth Floor
8:30 AM–6:00 PM

W12: Semantic e-Science

Organizers: Huajun Chen, Yimin Wang, Kei Cheung, Zhaohui Wu
Cavendish, Fourth Floor
9:00 AM–6:00 PM

W14: Trading Agent Design and Analysis

Organizer: John Collins
Plaza C, Second Level
9:00 AM–5:30 PM

W15: Information Integration on the Web (IIWeb)

Organizers: Ullas Nambiar, Zaiqing Nie
Regency E, Third Floor
8:30 AM–5:50 PM

A limited number of workshop technical reports will be available for sale after the conclusion of the workshop program at the AAAI-07 registration desk.

Student Programs

AAAI-07 Student Only Reception

USC/Information Sciences Institute will host the first AAAI Student Only Reception, Tuesday, July 24, 7:30–10:30 PM in the ballroom and Thea's Lounge of the Graduate Student Center at the University of British Columbia. Snacks and beverages will be served. All AAAI-07 registered students are welcome. Public transportation is available between downtown Vancouver (Granville and West Georgia Street) and the University of British Columbia campus via busses #4 and #17.

AAAI/SIGART Doctoral Consortium (DC-07)

The Twelfth AAAI/SIGART Doctoral Consortium program will be held on Sunday and Monday, July 22–23, in Grouse on the 34th floor of the Hyatt. 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 eighteen students accepted to participate in this program will also participate in the AAAI-07 Poster/Demo Session. All interested AAAI-07 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 and Microsoft that provide partial funding for this event.

AAAI Fellow / Student Lunches

First held in 2006, this program provides an opportunity for a small number of students to chat with a AAAI Fellow over an informal lunch during the conference. *Preregistration prior to the conference was required.* Preregistered students should meet their designated Fellow in onsite registration in the Regency Ballroom foyer on their assigned day.

AAAI-07 Student Blog/Forums

The AAAI-07 Student Blog is a student run blog that describes and documents AAAI-07 and IAAI-07 from a student's perspective. A small group of student bloggers attending the conferences will post daily items 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-07 Student Activities website. The website and blog are available from the following site: pegasus2.isi.edu/aaai07-studentinfo/.

Morning	AFTERNOON	EVENING
<p>Registration Tutorial Forum Workshops AAAI/SIGART DC Game Playing Competition</p>	<p>Sunday, July 22</p> <p>Registration Tutorial Forum Workshops AAAI/SIGART DC Game Playing Competition</p>	
<p>Registration Tutorial Forum Workshops AAAI/SIGART DC Game Playing Competition</p>	<p>Monday, July 23</p> <p>Registration AAAI Business Meeting Tutorial Forum Workshops AAAI/SIGART DC Game Playing Competition</p>	<p>Opening Reception Video Competition Man Versus Machine Poker Challenge</p>
<p>Registration AAAI-07 Presidential Address AAAI-07 and IAAI-07 Exhibits and Robots Poker Competition Man Versus Machine Exhibition Trading Agent Competition</p>	<p>Tuesday, July 24</p> <p>Registration IAAI-07 Invited Talk AAAI-07 and IAAI-07 Exhibits and Robots Poker Competition Man Versus Machine Exhibition Trading Agent Competition</p>	<p>Student Reception at the University of British Columbia</p>
<p>Registration Invited Talks AAAI-07 and IAAI-07 Exhibits and Robots Poker Tournament Man Versus Machine Exhibition Trading Agent Competition</p>	<p>Wednesday, July 25</p> <p>Registration AAAI-07 and IAAI-07 Exhibits and Robots Poker Tournament Man Versus Machine Exhibition Trading Agent Competition</p>	<p>Posters and Demos Reception</p>
<p>Registration AAAI-07 Invited Talks AAAI-07 and IAAI-07 Exhibits and Robots Poker Competition Man Versus Machine Exhibition</p>	<p>Thursday, July 26</p> <p>AAAI-07 and IAAI-07</p>	

Tutorial Forum

AAAI-07 technical registrants may attend up to four consecutive tutorials for an additional registration fee. All tutorials will be held on the second level of the Hyatt Regency Vancouver.

Session I: Sunday, July 22

9:00 AM–1:00 PM

SA1: Autonomous Bidding Agents
Michael Wellman and Peter Stone
Georgia A

SA2: Information Integration on the Web
Subbarao Kambhampati and Craig Knoblock
Georgia B

SA3: Domain Modeling for Planning
Mark Boddy and Robert P. Goldman
Plaza A

SA4: Algorithms for Satisfiability Testing
Anbulagan and Jussi Rintanen
Plaza B

Session II: Sunday, July 22

2:00 PM–6:00 PM

SP1: Human-Computer Interaction Based on Discourse Modeling: Theory from AI and Application in HCI
Hermann Kaindl
Georgia A

SP2: Constraint Processing for Planning and Scheduling
Roman Bartak
Georgia B

SP3: Beyond Traditional SAT Reasoning: QBF, Model Counting, and Solution Sampling
Ashish Sabharwal and Bart Selman
Plaza A

SP4: General Game Playing
Michael Thielscher
Plaza B

Session III: Monday, July 23

9:00 AM–1:00 PM

MA1: New Frontiers in Representation Discovery
Sridhar Mahadevan
Georgia A

MA2: Automatic Semantic Role Labeling
Scott Wen-tau Yih and Kristina Toutanova
Georgia B

MA3: Constraint-based Local Search in Comet
Pascal Van Hentenryck and Laurent Michel
Plaza A

MA4: Topics in Automated Planning and Scheduling Part I: Planning and Scheduling with Over-Subscribed Resources, Preferences, and Soft Constraints
Minh Do, Terry Zimmerman, and Subbarao Kambhampati
Plaza B

Session IV: Monday, July 23

2:00 PM–6:00 PM

MP1: Managing Uncertainty and Vagueness in Semantic Web Languages
Thomas Lukasiewicz and Umberto Straccia
Georgia A

MP2: Representing, Eliciting, and Reasoning with Preferences
Ronen Brafman and Carmel Domshlak
Georgia B

MP3: Practical Statistical Relational AI
Pedro Domingos
Plaza A

MP4: Topics in Automated Planning and Scheduling Part II: Coordinating Distributed Planning and Scheduling Agents
Stephen F. Smith, Bradley J. Clement, and Keith S. Decker
Plaza B

Special Meetings

AAAI Business Meeting

The AAAI Annual Business Meeting will be held Monday, July 23, 12:45–1:15 PM, Regency B, Third Floor

AAAI Conference Committee Meeting

AAAI Conference Committee Meeting will be held Thursday, July 26, 7:45–8:45 AM, Windsor, Third Floor

AAAI Executive Council Meeting

The AAAI Executive Council Meeting will be held Monday, July 23, 9:00 AM–4:00 PM, Stanley Room, 34th Floor. Continental breakfast will be available at 8:30 AM.

AAAI Press Editorial Board Meeting

The AAAI Press Editorial Board Meeting will be held Wednesday, July 25, 7:45–8:45 AM, Windsor, Third Floor

AAAI Publications Committee Meeting

The AAAI Publications Committee Meeting will be held Monday, July 23, 7:30–9:00 PM, Windsor, Third Floor

AAAI Strategic Planning Board Meeting

The AAAI Strategic Planning Board Meeting will be held Wednesday, July 25, 7:30–9:00 AM, Cavendish, Fourth Floor

AI Journal Editorial Board Meeting

The AI Journal Editorial Board Meeting will be held Tuesday, July 24, 12:30–3:30 PM, Cavendish, Fourth Floor

AI Magazine Editorial Board Meeting

The AI Magazine Editorial Board Meeting will be held Wednesday, July 25, 12:30–2:00 PM, Cavendish, Fourth Floor

JAIR Meeting

The JAIR Meeting of Advisory Board and Associate Editors will be Wednesday, July 25, 12:30–1:50 PM, Tropika Restaurant, 1128 Robson, Second Floor

IJCAI Trustees Meetings

The IJCAI Trustees Meetings will be held Thursday, July 26, 12:00–6:00 PM and Friday, July 27, 8:00 AM–12:00 PM, Tennyson, Fourth Floor

AAAI-07 / IAAI-07 Invited Talks

Tuesday, July 24

9:00–10:00 AM

AAAI Presidential Address

Agents, Bodies, Constraints
and Dynamics

Alan K. Mackworth

(University of British Columbia)

Regency Ballroom

1:50–2:50 PM

IAAI-07 Invited Talk

Revolutionizing Prostheses: A Program
of the Defense Advanced Research
Projects Agency (DARPA)

Geoffrey S. F. Ling (DARPA)

Regency B

The Defense Advanced Research Projects Agency (DARPA) sponsors revolutionary research targeted at bridging gaps between the needs of the warfighter and current technological, medical, and scientific capabilities. In the realm of neurology, specifically, the Human Assisted Neural Devices (HAND) and Revolutionizing Prosthesis programs are efforts aimed at advancing the interfaces between assistive devices and users by leveraging off of biological capabilities. Both programs have provided the basis for paradigm shifts in treatment of extremity injury and traumatic brain injury.

Wednesday, July 25

9:00–10:00 AM

AAAI-07 Invited Talk

Graph Identification

Lise Getoor (University of Maryland,
College Park)

Regency C

Within the machine learning community, there has been a growing interest in learning structured models from input data that is itself structured. Graph identification refers to methods that transform an observed input graph into an inferred output graph. Examples include inferring organizational hierarchies from social network data and identifying gene regulatory networks from protein-protein interactions. The key processes in graph identification are entity resolution, link prediction, and collective classification. Getoor will overview algorithms for these processes, discuss the need for integrating the results to solve the overall problem collectively, and show how these methods are relevant to foundational problems in AI such as knowledge representation, reformulation, and reasoning.

9:00–10:00 AM

AAAI-07 Invited Talk

Logic for Automated Mechanism
Design — A Progress Report

Michael Wooldridge

(University of Liverpool, UK)

Regency D

Cooperation logics, such as Coalition Logic and ATL, have proved to be a powerful formal tool for reasoning about game-like mechanisms such as social choice procedures. In this talk, Wooldridge presents a survey of his work in this area. He will begin by introducing ATL-like logics, and demonstrating that they form a natural tool for the specification of social choice procedures. He will show how ATL model checkers can be used to verify economic properties of social choice mechanisms. He will then discuss the main research issues in the area, discussing, for example, the succinct representation of social choice rules, the complexity of reasoning with such representations, and the handling of preferences. This talk will report joint work with Thomas Agotnes (Bergen), Wiebe van der Hoek (Liverpool), Marc Pauly (Stanford), and Paul E. Dunne (Liverpool).

10:20–11:20 AM

IAAI-07 Invited Talk: Robert S. Engelmore

Memorial Award Lecture

AI in a Moore's Law World: The Stories
of Farecast and KnowItAll

Oren Etzioni (University of Washington)

Regency B

What is the role for AI as CPUs, disks, and networks become exponentially more powerful? Perhaps, as some have suggested, the application of simple processing techniques to unprecedented mountains of data will suffice. Alternatively, perhaps Luis von Ahn's paradigm of "Human Computation" will yield any intelligence that is required. Etzioni will argue, to the contrary, that sophisticated AI techniques such as data mining and information extraction are necessary for exciting new applications. But these techniques have to be improved in important ways. He will make these points through the stories of Farecast.com and the KnowItAll research project.

Thursday, July 26

9:00–10:00 AM

AAAI-07 Invited Talk

Moving toward Peer-to-Peer
Human-Robot Interaction

Alan C. Schultz (Naval Research
Laboratory)

Regency C

As we move from teleoperation toward collaboration, human-robot interactions become more complex and require that the human and the robot share more common knowledge about the world. At the collaborative level of interaction, the robot and human must exercise mixed initiative in problem solving, each taking advantage of their unique skills, location, and perspective of the current situation. Working toward solutions to human-robot collaboration requires a highly multi-disciplinary approach, as well as integration of very different areas of research, as can be seen in the emerging field of human-robot interaction. This talk will describe recent multi-disciplinary approaches in shared perspective.

9:00–10:00 AM

AAAI-07 Invited Talk

Representing and Reasoning about
Preferences

Toby Walsh (NICTA and

University of New South Wales)

Regency D

Preferences turn up in many AI applications. How do we represent preferences? How do we elicit them from a user? How do we aggregate preferences of multiple agents? Can we do this fairly and efficiently? How do we reason about preferences ("I'd prefer a ski trip to a city break") and constraints ("It must cost less than my budget"). In this talk, Walsh will describe ongoing work to answer such questions. Research in this area is an interesting intersection between knowledge representation, decision theory, and multi-agent systems. It is also an area where computational intractability can be our friend.

10:20–11:20 AM

IAAI-07 Invited Talk

Big "A," Small "I": Smart Ends from
Simple Means

Matt Brown (Maxis / Electronic Arts)

Regency B

The talk will cover various elements of the game design, behavioral AI and structure behind The Sims 2 as well as future efforts in products such as The Sims and SimCity. Emphasis will be on simplification of abstraction and underlying world representations, prototyping and demonstration of practical results. Discussion will focus around players' perceptual models and manipulating available information and expectations to simplify design.

	REGENCY A	REGENCY C	REGENCY F	GEORGIA A
8:30–10:00 AM	AAAI-07/IAAI-07 Opening Ceremony and Presidential Address (All events from 8:30–10:00 AM will be held in the Regency Ballroom)	Welcome and Opening Remarks (Regency Ballroom) AAAI Welcome, Outstanding Paper and Program Committee Awards <i>Robert C. Holte and Adele Howe, AAAI-07 Program Chairs</i>	IAAI-07 Welcome, Robert S. Engelmore Award, Deployed Application Award Announcements <i>William Cheetham, IAAI-07 Conference Chair, Mehmet Goker, IAAI-07 Program Cochair, and David Leake, AI Magazine Editor-in-Chief</i>	Awards (Regency Ballroom) IJCAI-JAIR Best Paper Prize <i>Toby Walsh, Editor-in-Chief of the Journal of Artificial Intelligence Research (JAIR)</i>
10:20–11:20 AM	AI and the Web: Semantic Web <i>Session Chair: Thomas Lukasiewicz</i> Towards Large Scale Argumentation Support on the Semantic Web <i>Iyad Rahwan, Fouad Zablith, Chris Reed</i> Making the Difference in Semantic Web Service Composition <i>Freddy Lécue, Alexandre Delteil</i> Partial Matchmaking Using Approximate Subsumption <i>Heiner Stuckenschmidt</i>	Constraint Reasoning-1 <i>Session Chair: Toby Walsh</i> Learning to Solve QBF <i>Horst Samulowitz, Roland Memisevic</i> Combining Multiple Heuristics Online <i>Matthew Streeter, Daniel Golovin, Stephen F. Smith</i> Restart Schedules for Ensembles of Problem Instances <i>Matthew Streeter, Daniel Golovin, Stephen F. Smith</i>	Knowledge Representation and Reasoning <i>Session Chair: Jim Delgrande</i> A Temporal Mereology for Distinguishing between Integral Objects and Portions of Stuff <i>Thomas Bittner, Maureen Donnelly</i> Forgetting Actions in Domain Descriptions <i>Esra Erdem, Paolo Ferraris</i> A Generalized Gelfond-Lifschitz Transformation for Logic Programs with Abstract Constraints <i>Yi-Dong Shen, Jia-Huai You</i>	Unsupervised Learning-1 <i>Session Chair: Kagan Tumer</i> A Meta-learning Approach for Selecting between Response Automation Strategies in a Help-desk Domain <i>Y. Marom, I. Zukerman, N. Japkowicz</i> <i>Nectar: Manifold Denoising as Preprocessing for Finding Natural Representations of Data</i> <i>Matthias Hein, Markus Maier</i> COD: Online Temporal Clustering for Outbreak Detection <i>Tomás Sngliar, Denver H. Dash</i>
11:30 AM–12:30 PM	AI and the Web: Wikipedia <i>Session Chair: James Fan</i> Deriving a Large-Scale Taxonomy from Wikipedia <i>Simone Paolo Ponzetto, Michael Strube</i> Relation Extraction from Wikipedia Using Subtree Mining <i>Dat P. T. Nguyen, Yutaka Matsuo, Mitsuru Ishizuka</i> Finding Related Pages Using Green Measures: An Illustration with Wikipedia <i>Yann Ollivier, Pierre Senellart</i>	Consistency and Resolution <i>Session Chair: Willem-Jan van Hoeve</i> Data Structures for Generalised Arc Consistency for Extensional Constraints <i>Ian P. Gent, Chris Jefferson, Ian Miguel, Peter Nightingale</i> Conservative Dual Consistency <i>Christophe Lecoutre, Stéphane Cardon, Julien Vion</i> <i>Nectar: Refutation by Randomised General Resolution</i> <i>Steven Prestwich, Inês Lynce</i>	Fundamental Algorithms <i>Session Chair: Ashish Sabharwal</i> Computational Aspects of Covering in Dominance Graphs <i>Felix Brandt, Felix Fischer</i> Graph Partitioning Based on Link Distributions <i>Bo Long, Mark (Zhongfei) Zhang, Philip S. Yu</i> Discovering Near Symmetry in Graphs <i>Maria Fox, Derek Long, Julie Porteous</i>	Semisupervised Learning <i>Session Chair: Kiri Wagstaff</i> Improving Learning in Networked Data by Combining Explicit and Mined Links <i>Sofus A. Macskassy</i> Semisupervised Learning by Mixed Label Propagation <i>Wei Tong, Rong Jin</i> Semisupervised Learning with Very Few Labeled Training Examples <i>Zhi-Hua Zhou, De-Chuan Zhan, Qiang Yang</i>
1:50-2:50 PM	AI and the Web: User Interactions <i>Session Chair: Vinay Chaudhri</i> Modeling Contextual Factors of Click Rates <i>Hila Becker, Christopher Meek, David Maxwell Chickering</i> KA-CAPTCHA: An Opportunity for Knowledge Acquisition on the Web <i>Bruno Norberto da Silva, Ana Cristina Bicharra Garcia</i> PhotoSlap: A Multi-player Online Game for Semantic Annotation <i>Chien-Ju Ho, Tsung-Hsiang Chang, Jane Yung-jen Hsu</i>	NL-Based Inference <i>Session Chair: TBA</i> Semantic Inference at the Lexical-Syntactic Level <i>Roy Bar-Haim, Ido Dagan, Iddo Greental, Eyal Shnarch</i> Recognizing Textual Entailment Using a Subsequence Kernel Method <i>Rui Wang, Günter Neumann</i> <i>Nectar: Learning and Inference for Hierarchically Split PCFGs</i> <i>Slav Petrov, Dan Klein</i>	Causal Models <i>Session Chair: Denver Dash</i> On the Identification of a Class of Linear Models <i>Jin Tian</i> Possibilistic Causal Networks for Handling Interventions: A New Propagation Algorithm <i>Salem Benferhat, Salma Smaoui</i> Learning Causal Models for Noisy Biological Data Mining: An Application to Ovarian Cancer Detection <i>Ghim-Eng Yap, Ah-Hwee Tan, Hwee-Hwa Pang</i>	Reinforcement Learning-1 <i>Session Chair: Shimon Whiteson</i> <i>Nectar: Temporal Difference and Policy Search Methods for Reinforcement Learning</i> <i>Matthew Taylor, Shimon Whiteson, Peter Stone</i> A Reinforcement Learning Algorithm with Polynomial Interaction Complexity for Only-Costly-Observable MDPs <i>Roy Fox, Moshe Tennenholtz</i> Compact Spectral Bases for Value Function Approximation Using Kronecker Factorization <i>Jeff Johns, Sridhar Mahadevan, Chang Wang</i>
3:00–4:00 PM	AI and the Web: Supporting Business <i>Session Chair: Norman Sadeh-Koniecpol</i> Towards Efficient Dominant Relationship Exploration of the Product Items on the Web <i>Zhenglu Yang, Lin Li, Botao Wang, Masaru Kitsuregawa</i> Design of a Mechanism for Promoting Honesty in E-Marketplaces <i>Jie Zhang, Robin Cohen</i> Representing and Reasoning about Commitments in Business Processes <i>Nirmit Desai, Amit K. Chopra, Munindar P. Singh</i>	Information Gathering <i>Session Chair: TBA</i> Nonmyopic Informative Path Planning in Spatio-Temporal Models <i>Alexandra Meliou, Andreas Krause, Carlos Guestrin, Joseph M. Hellerstein</i> Purely Epistemic Markov Decision Processes <i>Régis Sabbadin, Jérôme Lang, Nasolo Ravoanjanahary</i> VOILA: Efficient Feature-value Acquisition for Classification <i>Mustafa Bilgic, Lise Getoor</i>	Action/Agent Logics <i>Session Chair: Iyad Rahwan</i> A Logic of Agent Programs <i>N. Alechina, M. Dastani, B. S. Logan, J.-J. Ch. Meyer</i> Optimal Regression for Reasoning about Knowledge and Actions <i>Hans van Ditmarsch, Andreas Herzig, Tiago de Lima</i> ESP: A Logic of Only-Knowing, Noisy Sensing and Acting <i>Alfredo Gabaldon, Gerhard Lakemeyer</i>	Transfer Learning <i>Session Chair: Pedro Domingos</i> Measuring the Level of Transfer Learning by an AP Physics Problem-Solver <i>Matthew Klenk, Kenneth D. Forbus</i> Mapping and Revising Markov Logic Networks for Transfer Learning <i>Liliana Mihalkova, Tuyen Huynh, Raymond J. Mooney</i> Transferring Naive Bayes Classifiers for Text Classification <i>Wenyuan Dai, Gui-Rong Xue, Qiang Yang, Yong Yu</i>
4:20–5:20 PM	Planning on the Web <i>Session Chair: Craig Knoblock</i> <i>Senior Member: Model-lite Planning for the Web</i> Age Masses: The Challenges of Planning with Incomplete and Evolving Domain Models <i>Subbarao Kambhampati</i> Web Service Composition as Planning, Revisited: In Between Background Theories and Initial State Uncertainty <i>Jörg Hoffmann, Piergiorgio Bertoli, Marco Pistore</i> AIW: A Planning Approach for Message-Oriented Semantic Web Service Composition <i>Zhen Liu, Anand Ranganathan, Anton Riabov</i>	Search Algorithm Synthesis/Comparison <i>Session Chair: Steve Minton</i> <i>Nectar: An Experimental Comparison of Constraint Logic Programming and Answer Set Programming</i> <i>Agostino Dovier, Andrea Formisano, Enrico Pontelli</i> Synthesis of Constraint-Based Local Search Algorithms from High-Level Models <i>Pascal Van Hentenryck, Laurent Michel</i> Automatic Algorithm Configuration Based on Local Search <i>Frank Hutter, Holger H. Hoos, Thomas Stützle</i>	Models of Agency <i>Session Chair: Yoav Shoham</i> A Logic of Emotions for Intelligent Agents <i>Bas R. Steunebrink, Mehdi Dastani, John-Jules Ch. Meyer</i> Intention Guided Belief Revision <i>Timothy William Cleaver, Abdul Sattar</i> A Modal Logic for Beliefs and Pro Attitudes <i>Kaile Su, Abdul Sattar, Han Lin, Mark Reynolds</i>	Collective Inference <i>Session Chair: Kagan Tumer</i> Joint Inference in Information Extraction <i>Hoifung Poon, Pedro Domingos</i> Cautious Inference in Collective Classification <i>Luke K. McDowell, Kalyan Moy Gupta, David W. Ah</i> <i>Nectar: Online Collective Entity Resolution</i> <i>Indrajit Bhattacharya, Lise Getoor</i>
EVENING	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. AAAI-07 Students-Only Reception, 7:30–10:30 PM, University of British Columbia			

	REGENCY D	GEORGIA B	REGENCY E	REGENCY B
8:30–10:00 AM	<p>Awards (Regency Ballroom) AAAI Classic Paper and Distinguished Service Awards <i>Ronald J. Brachman, AAAI Past President and Awards Committee Chair</i> <i>Alan Mackworth, AAAI President</i></p>	<p>AAAI Presidential Address (Regency Ballroom) 9:00-10:00 AM (Regency Ballroom) Agents, Bodies, Constraints and Dynamics <i>Alan Mackworth (University of British Columbia)</i></p>		
10:20–11:20 AM	<p>Multiagent Systems Session Chair: <i>Shlomo Zilberstein</i> A Multi-Dimensional Trust Model for Heterogeneous Contract Observations <i>Steven Reece, Stephen Roberts, Alex Rogers, Nicholas R. Jennings</i> Improved State Estimation in Multiagent Settings with Continuous or Large Discrete State Spaces <i>Prashant Doshi</i> An α-approximation Protocol for the Generalized Mutual Assignment Problem <i>Katsutoshi Hirayama</i></p>	<p>POMDPs Session Chair: <i>Sridhar Mahadevan</i> Indefinite-Horizon POMDPs with Action-Based Termination <i>Eric A. Hansen</i> Scaling Up: Solving POMDPs through Value Based Clustering <i>Yan Virin, Guy Shani, Solomon Eyal Shimony, Ronen Brafman</i> Point-Based Policy Iteration <i>Shihao Ji, Ronald Parr, Hui Li, Xuejun Liao, Lawrence Carin</i></p>	<p>Human Studies Session Chair: <i>Brian Scassellati</i> Humans Perform Semisupervised Classification Too <i>Xiaojin Zhu, Timothy Rogers, Ruichen Qian, Chuck Kalish</i> Modeling Reciprocal Behavior in Human Bilateral Negotiation <i>Ya'akov Gal, Avi Pfeffer</i> Nectar: Using Eye-Tracking Data for High-Level User Modeling in Adaptive Interfaces <i>Cristina Conati, Christina Merten, Saleema Amershi, Kasia Muldner</i></p>	<p>IAAI-07: Machine Learning Session Chair: <i>Samy Uthrusamy</i> Emerging: Stochastic Optimization for Collision Selection in High Energy Physics <i>Shimon Whiteson, Daniel Whiteson</i> Emerging: Adaptive Timeout Policies for Fast Fine-Grained Power Management <i>Branislav Kveton, Prashant Gandhi, Georgios Theodorou, Shie Mannor, Barbara Rosario, Nilesh Shah</i></p>
11:30 AM–12:30 PM	<p>Negotiation Session Chair: <i>Shlomo Zilberstein</i> On the Benefits of Exploiting Underlying Goals in Argument-based Negotiation <i>Iyad Rahwan, Philippe Pasquier, Liz Sonenberg, Frank Dignum</i> Reasoning about Bargaining Situations <i>Dongmo Zhang</i></p>	<p>Heuristic Search-1 Session Chair: <i>Rich Korf</i> Near-Optimal Search in Continuous Domains <i>Samuel Leong, Nicolas Lambert, Yoav Shoham, Ronen Brafman</i> Parallel Structured Duplicate Detection <i>Rong Zhou, Eric A. Hansen</i> Best-First Search for Treewidth <i>P. Alex Dow, Richard E. Korf</i></p>	<p>Integrated Intelligence: Spatial Cognition Session Chair: <i>Benjamin Kuipers</i> Spatial Representation and Reasoning for Human-Robot Collaboration <i>W. Kennedy, M. Bugajska, M. Marge, W. Adams, B. Fransen, D. Perzanowski, A. Schultz, J. Trafton</i> An Integrated Robotic System for Spatial Understanding and Situated Interaction ... <i>H. Zender, P. Jensfelt, Ó. Martínez Mozos, G. Kruijff, W. Burgard</i> Predicate Projection in a Bimodal Spatial Reasoning System <i>Samuel Wintermute, John E. Laird</i></p>	<p>IAAI-07: Space Applications Session Chair: <i>Samy Uthrusamy</i> Emerging: Machine Learning for Automatic Mapping of Planetary Surfaces <i>Tomasz F. Stepinski, Soumya Ghosh, Ricardo Vilalta</i> Deployed: The Virtual Solar-Terrestrial Observatory: A Deployed Semantic Web Application Case Study for Scientific Research <i>Deborah McGuinness, Peter Fox, Luca Cinghini, Patrick West, Jose Garcia, James L. Benedict, Don Middleton</i></p>
1:50-2:50 PM	<p>Mechanism Design-1 Session Chair: <i>Jeff Rosenschein</i> Implementing the Maximum of Monotone Algorithms <i>Liad Blumrosen</i> Automated Online Mechanism Design and Prophet Inequalities <i>Mohammad Taghi Hajiaghayi, Robert Kleinberg, Tuomas Sandholm</i> An Ironing-Based Approach to Adaptive Online Mechanism Design in Single-Valued Domains <i>David C. Parkes, Quang Duong</i></p>	<p>Heuristic Search-2 Session Chair: <i>Rich Korf</i> Domain-Independent Construction of Pattern Database Heuristics for Cost-Optimal Planning <i>Patrik Haslum, Adi Botea, Malte Helmert, Blai Bonet, Sven Koenig</i> Theta*: Any-Angle Path Planning on Grids <i>Alex Nash, Kenny Daniel, Sven Koenig, Ariel Felner</i> On the Value of Good Advice: The Complexity of A* Search with Accurate Heuristics <i>Hang Dinh, Alexander Russell, Yuan Su</i></p>	<p>Localization Session Chair: <i>Maria Gini</i> Hybrid Inference for Sensor Network Localization Using a Mobile Robot <i>Dimitrios Mannakis, David Meger, Ioannis Rekleitis, Gregory Dudek</i> Online Co-Localization in Indoor Wireless Networks by Dimension Reduction <i>Jeffrey Pan, Qiang Yang, Sinno Jialin Pan</i> Adaptive Localization in a Dynamic WiFi Environment through Multi-view Learning <i>Sinno Jialin Pan, James T. Kwok, Qiang Yang, Jeffrey Junfeng Pan</i></p>	<p>IAAI-07 Invited Talk Revolutionizing Prostheses: A Program of the Defense Advanced Research Projects Agency (DARPA) <i>Geoffrey S. F. Ling (DARPA)</i></p>
3:00–4:00 PM	<p>Auctions Session Chair: <i>Jeff Rosenschein</i> Nectar: Making VCG More Robust in Combinatorial Auctions via Submodular Approximation <i>Makoto Yokoo, Atsushi Iwasaki</i> Valuation Uncertainty and Imperfect Inspection in Second-Price Auctions <i>David R. M. Thompson, Kevin Leyton-Brown</i> Revenue Monotonicity in Combinatorial Auctions <i>Baharak Rastegari, Anne Condon, Kevin Leyton-Brown</i></p>	<p>Optimal Planning Session Chair: <i>Joerg Hoffmann</i> Filtering, Decomposition and Search Space Reduction for Optimal Sequential Planning <i>Stéphane Grandcolas, Cyril Pain-Barre</i> Planning as Satisfiability with Preferences <i>Enrico Giunchiglia, Marco Maratea</i> Asymptotically Optimal Encodings of Conformant Planning in QBF <i>Jussi Rintanen</i></p>	<p>Probabilistic Methods-1 Session Chair: <i>Denver Dash</i> Best-First AND/OR Search for Graphical Models <i>Radu Marinescu, Rina Dechter</i> Sampling with Memoization <i>Avi Pfeffer</i> Generalized Evidence Pre-propagated Importance Sampling for Hybrid Bayesian Networks <i>Changhe Yuan, Marek J. Druzdzel</i></p>	<p>IAAI-07: Medical Applications Session Chair: <i>Randy Hill</i> Deployed: BiMind ArrayGenius and GeneGenius: Web Services Offering Microarray and SNP Data Analysis via Novel Machine Learning Methods <i>Ben Goertzel, Cassio Pennachin, Lucio Coelho, Leonardo Shikida, Murilo Queiroz</i> Emerging: Real-Time Identification of Operating Room State from Video <i>Beenish Bhatia, Tim Oates, Yan Xiao, Peter Hu</i></p>
4:20–5:20 PM	<p>Game Theory-1 Session Chair: <i>Sam Leong</i> A New Algorithm for Generating Equilibria in Massive Zero-Sum Games <i>Martin Zinkevich, Michael Bowling, Neil Burch</i> Learning Equilibrium in Resource Selection Games <i>Itai Ashlagi, Dov Monderer, Moshe Tennenholtz</i> On the Reasoning Patterns of Agents in Games <i>Avi Pfeffer, Ya'akov Gal</i></p>	<p>Vision Session Chair: <i>TBA</i> A Vision-Based System for a UGV to Handle a Road Intersection <i>Javed Ahmed, Mubarak Shah, Andrew Miller, Don Harper, M. N. Jafri</i> Photometric and Geometric Restoration of Document Images Using Inpainting and Shape-from-Shading <i>Li Zhang, Andy M. Yip, Chew Lim Tan</i> Detection of Multiple Deformable Objects Using PCA-SIFT <i>Stefan Zickler, Alexei Efros</i></p>	<p>Integrated Intelligence: Learning/Teaching Session Chair: <i>Dragos Margineantu</i> AAAI-07 Outstanding Paper: PLOW: A Collaborative Task Learning Agent <i>J. Allen, N. Chambers, G. Ferguson, L. Galescu, H. Jung, M. Swift, W. Taysom</i> Integrated Introspective Case-Based Reasoning for Intelligent Tutoring Systems <i>Leen-Kiat Soh</i> Integrating Natural Language, KR and R, and Analogical Processing to Learn by Reading <i>K. Forbus, C. Riesbeck, L. Birnbaum, K. Livingston, A. Sharma, L. Ureel</i></p>	<p>IAAI-07: Information Systems Session Chair: <i>Ted Senator</i> Deployed: Using AI for e-Government Automatic Assessment of Immigration Application Forms <i>Andy Hon Wai Chun</i> Deployed: Journal-Ranking.com: An Online Interactive Journal Ranking System <i>Andrew Lim, Hong Ma, Qi Wen, Zhou Xu, Brenda Cheang, Bernard Tan, Wenbin Zhu</i></p>
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.				

	REGENCY A	REGENCY C	REGENCY F / STANLEY	GEORGIA A
9:00–10:00 AM		AAAI-07 Invited Talk <i>Introduction by Tom Dietterich</i> Graph Identification <i>Lise Getoor (University of Maryland, College Park)</i>		
10:20–11:20 AM	AI and the Web: Trust and Authority <i>Session Chair: Robin Cohen</i> SUNNY: A New Algorithm for Trust Inference in Social Networks Using Probabilistic Confidence Models <i>Ugur Kuter, Jennifer Golbeck</i> From Whence Does Your Authority Come? Utilizing Community Relevance in Ranking <i>Lan Nie, Brian D. Davison, Baoning Wu</i> Reasoning about Attribute Authenticity in a Web Environment <i>Thomas Wöfl</i>	Constraint Reasoning-2 <i>Session Chair: Steve Prestwich</i> Propagating Knapsack Constraints in Sublinear Time <i>Irit Katriel, Meinolf Sellmann, Eli Upfal, Pascal Van Hentenryck</i> Dynamic DFS Tree in ADOPT-ing <i>Marius C. Silaghi, Makoto Yokoo</i> On the Partial Observability of Temporal Uncertainty <i>Michael D. Moffitt</i>	Action/Agent Languages (Regency F) <i>Session Chair: Jussi Rintanen</i> A Modular Action Description Language for Protocol Composition <i>Nirmit Desai, Munindar P. Singh</i> Expressiveness of ADL and Golog: Functions Make a Difference <i>Gabriele Röger, Bernhard Nebel</i> The Semantics of Variables in Action Descriptions <i>Vladimir Lifschitz, Wanwan Ren</i>	Kernel Methods <i>Session Chair: Richard Maclin</i> A Randomized String Kernel and Its Application to RNA Interference <i>Shibin Qiu, Terran Lane, Ljubomir Buturovic</i> Kernel Regression with Order Preferences <i>Xiaojin Zhu, Andrew B. Goldberg</i> Nectar: The Pyramid Match: Efficient Learning with Partial Correspondences <i>Kristen Grauman</i>
11:30 AM–12:30 PM	AI and the Web: Ontologies <i>Session Chair: Chris Welty</i> Approximating OWL-DL Ontologies <i>Jeff Z. Pan, Edward Thomas</i> Repairing Ontology Mappings <i>Christian Meilicke, Heiner Stuckenschmidt, Andrei Tamilin</i> A Semantic Importing Approach to Knowledge Reuse from Multiple Ontologies <i>Jie Bao, Giora Slutzki, Vasant Honavar</i>	Constrained Optimization <i>Session Chair: K. Brent Venable</i> Search Space Reduction and Russian Doll Search <i>Kenil C. K. Cheng, Roland H. C. Yap</i> Multi-Objective Russian Doll Search <i>Emma Rollon, Javier Larrosa</i> Computing Optimal Subsets <i>Maxim Binshtok, Ronen I. Brafman, Solomon E. Shimony, Ajay Martin, Craig Boutilier</i>	Logic/Database Query Answering (Regency F) <i>Session Chair: Mirek Truszczynski</i> Scalable Semantic Retrieval through Summarization and Refinement <i>J. Dolby, A. Fokoue, A. Kalyanpur, A. Kershenbaum, E. Schonberg, K. Srinivas, L. Ma</i> Approximate Query Answering in Locally Closed Databases <i>Á. Cortés-Calabuig, M. Denecker, O. Arieli, M. Bruynooghe</i> Facts Do Not Cease to Exist Because They Are Ignored ... <i>J. Oetsch, H. Tompits, S. Woltran</i>	Unsupervised Learning-2 <i>Session Chair: Dragos Margineantu</i> Clustering with Local and Global Regularization <i>Fei Wang, Changshui Zhang, Tao Li</i> Isometric Projection <i>Deng Cai, Xiaofei He, Jiawei Han</i> Discovering Multivariate Motifs Using Subsequence Density Estimation and Greedy Mixture Learning <i>David Minnen, Charles L. Isbell, Irfan Essa, Thad Starner</i>
1:50–2:50 PM	AI and the Web: Networks and Semantics <i>Session Chair: Neil Yorke-Smith</i> Provisioning Heterogeneous and Unreliable Providers for Service Workflows <i>Sebastian Stein, Nicholas R. Jennings, Terry R. Payne</i> A Distributed Constraint Optimization Solution to the P2P Video Streaming Problem <i>Theodore Elhourani, Nathan Denny, Michael Marefat</i> GRIN : A Graph Based RDF Index <i>O. Udrea, A. Pugliese, V. S. Subrahmanian</i>	Constraint Reasoning-3 <i>Session Chair: Francesca Rossi</i> Transposition Tables for Constraint Satisfaction <i>Christophe Lecoutre, Lakhdar Saïs, Sébastien Tabary, Vincent Vidal</i> Representative Explanations for Over-Constrained Problems <i>Barry O'Sullivan, Alexandre Papadopoulos, Boi Faltings, Pearl Pu</i> Diagnosis of Discrete-Event Systems Using Satisfiability Algorithms <i>Alban Grastien, Anbulagan, Jussi Rintanen, Elena Kelareva</i>	Reasoning with Beliefs (Stanley, 34th Floor) <i>Session Chair: Mirek Truszczynski</i> Mutual Belief Revision: Semantics and Computation <i>Yi Jin, Michael Thielscher, Dongmo Zhang</i> An Egalitarian Fusion of Incommensurable Ranked Belief Bases under Constraints <i>Salem Benferhat, Sylvain Lagrue, Julien Rossit</i> Belief Change and Cryptographic Protocol Verification <i>Aaron Hunter, James P. Delgrande</i>	Mathematical Programming <i>Session Chair: TBA</i> A Mathematical Programming Formulation for Sparse Collaborative Computer Aided Diagnosis <i>Jimbo Bi, Tao Xiong</i> Refining Rules Incorporated into Knowledge-Based Support Vector Learners Via Successive Linear Programming <i>Richard Maclin, Edward Wild, Jude Shavlik, Lisa Torrey, Trevor Walker</i> A Method for Large-Scale l_1 -Regularized Logistic Regression <i>Kwangmoo Koh, Seung-Jean Kim, Stephen Boyd</i>
3:00–4:00 PM	AI and the Web: Language Technology <i>Session Chair: Chris Welty</i> Improving Similarity Measures for Short Segments of Text <i>Wen-tau Yih, Christopher Meek</i> Topic Segmentation Algorithms for Text Summarization and Passage Retrieval: An Exhaustive Evaluation <i>Gaël Dias, Elsa Alves, José Gabriel Pereira Lopes</i> Robust Estimation of Google Counts for Social Network Extraction <i>Yutaka Matsuo, Hironori Tomobe, Takuichi Nishimura</i>	CSPs <i>Session Chair: K. Brent Venable</i> Using Expectation Maximization to Find Likely Assignments for Solving CSP's <i>Eric I. Hsu, Matthew Kitching, Fahiem Bacchus, Sheila A. McIlraith</i> On Balanced CSPs with High Treewidth <i>Carlos Ansótegui, Ramón Béjar, César Fernández, Carles Mateu</i> Inference Rules for High-Order Consistency in Weighted CSP <i>Carlos Ansótegui, María L. Bonet, Jordi Levy, Felip Manyà</i>	Description Logics-1 (Stanley, 34th Floor) <i>Session Chair: Giuseppe De Giacomo</i> Complexity Boundaries for Horn Description Logics <i>Markus Krötzsch, Sebastian Rudolph, Pascal Hitzler</i> DL-Lite in the Light of First-Order Logic <i>Alessandro Artale, Diego Calvanese, Roman Kontchakov, Michael Zakharyashev</i> Answering Regular Path Queries in Expressive Description Logics: An Automata-Theoretic Approach <i>Diego Calvanese, Thomas Eiter, Magdalena Ortiz</i>	Link Mining <i>Session Chair: Pedro Domingos</i> Probabilistic Community Discovery Using Hierarchical Latent Gaussian Mixture Model <i>Haizheng Zhang, C. Lee Giles, Henry C. Foley, John Yen</i> Relationship Identification for Social Network Discovery <i>Christopher P. Diehl, Galileo Namata, Lise Getoor</i> L2R: A Logical Method for Reference Reconciliation <i>Fatiha Sais, Nathalie Pernelle, Marie Christine Rousset</i>
4:20–5:20 PM	Web Mining/Retrieval <i>Session Chair: Shieu-Hong Lin</i> Mining Web Query Hierarchies from Clickthrough Data <i>Dou Shen, Min Qin, Weizhu Chen, Qiang Yang, Zheng Chen</i> TableRank: A Ranking Algorithm for Table Search and Retrieval <i>Ying Liu, Kun Bai, Prasenjit Mitra, C. Lee Giles</i>	Model Counting <i>Session Chair: Toby Walsh</i> Approximate Counting by Sampling the Backtrack-free Search Space <i>Vibhav Gogate, Rina Dechter</i> Using More Reasoning to Improve #SAT Solving <i>Jessica Davies, Fahiem Bacchus</i> Counting CSP Solutions Using Generalized XOR Constraints <i>Carla P. Gomes, Willem-Jan van Hoeve, Ashish Sabharwal, Bart Selman</i>	Description Logics-2 (Stanley, 34th Floor) <i>Session Chair: Diego Calvanese</i> Description Logics for Multi-Issue Bilateral Negotiation with Incomplete Information <i>Azzurra Ragone, Tommaso Di Noia, Eugenio Di Sciascio, Francesco M. Donini</i> On the Approximation of Instance Level Update and Erasure in Description Logics <i>Giuseppe De Giacomo, Maurizio Lenzerini, Antonella Poggi, Riccardo Rosati</i> On Capturing Semantics in Ontology Mapping <i>B. Hu, S. Dasmahapatra, P. Lewis, N. Shadbolt</i>	Learning Semantics from Text <i>Session Chair: Shieu-Hong Lin</i> Learning Language Semantics from Ambiguous Supervision <i>Rohit J. Kate, Raymond J. Mooney</i> A Robot That Uses Existing Vocabulary to Infer Non-Visual Word Meanings from Observation <i>Kevin Gold, Brian Scassellati</i> Nectar: Modeling and Learning Vague Event Durations for Temporal Reasoning <i>Feng Pan, Rutu Mulkar-Mehta, Jerry R. Hobbs</i>
EVENING	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.			
	AAAI-07 Poster Demo Reception, 6:30–10:00 PM			

	REGENCY D / GROUSE	GEORGIA B	REGENCY E / CYPRESS	REGENCY B
9:00–10:00 AM	AAAI-07 Invited Talk (Regency D) <i>Introduction by Jeff Rosenschein</i> Logic for Automated Mechanism Design—A Progress Report <i>Michael Wooldridge (University of Liverpool, UK)</i>			IAAI-07: Agents <i>Session Chair: Nestor Rychtycky</i> Deployed: Coordinating Hundreds of Cooperative, Autonomous Vehicles in Warehouses <i>P. Wurman, R. D'Andrea, Mick Mountz</i> Emerging: A Multi-Agent Approach to Distributed Rendering Optimization <i>C. Gonzalez-Morcillo, G. Weiss, L. Jimenez, D. Vallejo</i>
10:20–11:20 AM	Agents Modeling Other Agents (Regency D) <i>Session Chair: Shlomo Zilberstein</i> Approximate Solutions of Interactive Dynamic Influence Diagrams Using Model Clustering <i>Yifeng Zeng, Prashant Doshi, Qiongyu Chen</i> Minimal Mental Models <i>David V. Pynadath, Stacy C. Marsella</i> Incorporating Observer Biases in Keyhole Plan Recognition (Efficiently!) <i>Dorit Avrahami-Zilberbrand, Gal A. Kaminka</i>	Sensor-Based Systems <i>Session Chair: Maria Gini</i> Nectar: Dominance and Equivalence for Sensor-Based Agents <i>Jason M. O'Kane, Steven M. LaValle</i> Topological Mapping with Weak Sensory Data <i>Gregory Dudek, Dimitri Marinakis</i> Simple Robots with Minimal Sensing: From Local Visibility to Global Geometry <i>Subhash Suri, Elias Vicari, Peter Widmayer</i>	AI in Art and Science (Regency E) <i>Session Chair: TBA</i> Recognition of Hand Drawn Chemical Diagrams <i>Tom Y. Ouyang, Randall Davis</i> Posterior Probability Profiles for the Automated Assessment of the Recovery of Stroke Patients <i>Gert Van Dijk, Jo Van Vaerenbergh, Marc M. Van Hulle</i> A Corpus-Based Hybrid Approach to Music Analysis and Composition <i>Bill Manaris, Patrick Roos, Penousal Machado, Dwight Krehbiel, Luca Pellicoro, Juan Romero</i>	IAAI-07 Invited Talk <i>Robert S. Engelmore Memorial Award Lecture</i> AI in a Moore's Law World: The Stories of Forecast and KnowItAll <i>Oren Etzioni (University of Washington)</i>
11:30 AM–12:30 PM	Multiagent Coordination (Regency D) <i>Session Chair: Iyad Rahwan</i> Anytime Coordination Using Separable Bilinear Programs <i>Marek Petrik, Shlomo Zilberstein</i> A Logical Theory of Coordination and Joint Ability <i>Hojjat Ghaderi, Hector Levesque, Yves Lespérance</i> Anytime Optimal Coalition Structure Generation <i>Talal Rahwan, Sarvapali D. Ramchurn, Viet D. Dang, Andrea Giovannucci, Nicholas R. Jennings</i>	Games-1 <i>Session Chair: Rich Korf</i> Visualization and Adjustment of Evaluation Functions Based on Evaluation Values and Win Probability <i>Shogo Takeuchi, Tomoyuki Kaneko, Kazunori Yamaguchi, Satoru Kawai</i> Heuristic Evaluation Functions for General Game Playing <i>James Clune</i> Fluxplayer: A Successful General Game Player <i>Stephan Schiffel, Michael Thielscher</i>	Integrated Intelligence: Producing Pictures or Songs (Regency E) <i>Session Chair: Bryan Loyall</i> A Text-to-Picture Synthesis System for Augmenting Communication <i>Xiaojin Zhu, Andrew B. Goldberg, Mohamed Eldawy, Charles R. Dyer, Bradley Strock</i> An Intelligent System for Chinese Calligraphy <i>Songhua Xu, Hao Jiang, Francis C. M. Lau, Yunhe Pan</i> Learning to Sing Like a Bird: The Self-Supervised Acquisition of Birdsong <i>Michael H. Coen</i>	IAAI-07: Decision Support <i>Session Chair: Reid Smith</i> Deployed: MasDISPO: A Multiagent Decision Support System for Steel Production and Control <i>Sven Jacobi, Esteban León-Soto, Cristián Madrigal-Mora, Klaus Fischer</i> Emerging: Optimizing Anthrax Outbreak Detection Using Reinforcement Learning <i>Masoumeh T. Izadi, David L. Buckeridge</i>
1:50-2:50 PM	Mechanism Design-2 (Grouse, 34th Floor) <i>Session Chair: Jeff Rosenschein</i> Partial Revelation Automated Mechanism Design <i>Nathanaël Hyafil, Craig Boutilier</i> Strongly Decomposable Voting Rules on Multiattribute Domains <i>Lirong Xia, Jérôme Lang, Mingsheng Ying</i> Lull and Copeland Voting Broadly Resist Bribery and Control <i>Piotr Faliszewski, Edith Hemaspaandra, Lane A. Hemaspaandra, Jörg Rothe</i>	Games-2 <i>Session Chair: Nathan Sturtevant</i> M ² ICAL Analyses HC-Gammon <i>Wee-Chong Oon, Martin Henz</i> Potential-Aware Automated Abstraction of Sequential Games, and Holistic Equilibrium Analysis of Texas Hold'em Poker <i>Andrew Gilpin, Toomas Sandholm, Troels Bjerre Sørensen</i> Particle Filtering for Dynamic Agent Modeling in Simplified Poker <i>Nolan Bard, Michael Bowling</i>	Probabilistic Methods-2 (Cypress, 34th Floor) <i>Session Chair: Thomas Lukasiewicz</i> Logical Generative Models for Probabilistic Reasoning about Existence, Roles and Identity <i>David Poole</i> Efficient Structure Learning in Factored-State MDPs <i>Alexander L. Strehl, Carlos Diuk, Michael L. Littman</i> Authorial Idioms for Target Distributions in TTD-MDPs <i>David L. Roberts, Sooraj Bhat, Kenneth St. Clair, Charles L. Isbell</i>	IAAI-07: Business Automation <i>Session Chair: Samy Uthrusamy</i> Deployed: The VITA Financial Services Sales Support Environment <i>Alexander Felfernig, Klaus Isak, Kalman Szabo, Peter Zachar</i> Deployed: Custom DU [®] —A Web Based Business User Driven Automated Underwriting System <i>Srinivas Krowidy, Robin Landsman, Steve Opdahl, Nancy Templeton, Sydnor Smalera</i>
3:00–4:00 PM	Scheduling (Grouse, 34th Floor) <i>Session Chair: David E. Smith</i> Understanding Performance Tradeoffs in Algorithms for Solving Oversubscribed Scheduling <i>Laurence A. Kramer, Laura V. Barbulescu, Stephen F. Smith</i> Randomized Adaptive Spatial Decoupling for Large-Scale Vehicle Routing with Time Windows <i>Russell Bent, Pascal Van Hentenryck</i> Population-Based Simulated Annealing for Traveling Tournaments <i>Pascal Van Hentenryck, Yannis Vergados</i>	Games-3 <i>Session Chair: Bryan Loyall</i> Acquiring Visibly Intelligent Behavior with Example-Guided Neuroevolution <i>Bobby D. Bryant, Risto Miikkulainen</i> Nectar: Beyond Individualism: Modeling Team Playing Behavior in Robot Soccer through Case-Based Reasoning <i>Raquel Ros, Manuela Veloso, Ramon López de Mántaras, Carles Sierra, Josep Lluís Arcos</i> If: R-CAST: Integrating Team Intelligence for Human-Centered Teamwork <i>Xiaocong Fan, John Yen</i>	Cognitive/Brain Models (Cypress, 34th Floor) <i>Session Chair: Bill Swartout</i> <i>Senior Member: On the Prospects for Building a Working Model of the Visual Cortex</i> <i>Thomas Dean, Glenn Carroll, Richard Washington</i> A Connectionist Cognitive Model for Temporal Synchronisation and Learning <i>Luis C. Lamb, Rafael V. Borges, Artur S. d'Ávila Garcez</i> Towards a Cognitive Model of Crowd Behavior Based on Social Comparison Theory <i>Natalie Fridman, Gal A. Kaminka</i>	IAAI-07: Human Computer Interaction <i>Session Chair: Randy Hill</i> Deployed: Enabling Intelligent Content Discovery on the Mobile Internet <i>Barry Smyth, Paul Cotter, Stephen Oman</i> Emerging: Supporting Feedback and Assessment of Digital Ink Answers to In-Class Exercises <i>Kimberle Koile, Kevin Chevalier, Michel Rbeiz, Adam Rogal, David Singer, Jordan Sorensen, Amanda Smith, Kah Seng Tay, Kenneth Wu</i>
4:20–5:20 PM	Trading/Negotiating Agents (Grouse, 34th Floor) <i>Session Chair: John Collins</i> Efficient Statistical Methods for Evaluating Trading Agent Performance <i>Eric Sodomka, John Collins, Maria Gini</i> Allocating Goods on a Graph to Eliminate Envy <i>Yann Chevaleyre, Ulle Endriss, Nicolas Maudet</i> Gender-Sensitive Automated Negotiators <i>Ron Katz, Sarit Kraus</i>	Robots that Learn <i>Session Chair: Benjamin Kuipers</i> Autonomous Development of a Grounded Object Ontology by a Learning Robot <i>Joseph Modayil, Benjamin Kuipers</i> Stochastic Filtering in a Probabilistic Action Model <i>Hannaneh Hajishirzi, Eyal Amir</i> Detecting Execution Failures Using Learned Action Models <i>Maria Fox, Jonathan Gough, Derek Long</i>	Diagnosis (Cypress, 34th Floor) <i>Session Chair: Martin Sachenbacher</i> A Qualitative Approach to Multiple Fault Isolation in Continuous Systems <i>Matthew Daigle, Xenofon Koutsoukos, Gautam Biswas</i> Nectar: Efficient Datalog Abduction through Bounded Treewidth <i>Georg Gottlob, Reinhard Pichler, Fang Wei</i> A Spectrum of Symbolic On-line Diagnosis Approaches <i>Anika Schumann, Yannick Pencolé, Sylvie Thiébaux</i>	IAAI-07: Planning and Workflow <i>Session Chair: Reid Smith</i> Emerging: Optimal Multi-Agent Scheduling with Constraint Programming <i>Willem-Jan van Hoeve, Carla P. Gomes, Bart Selman, Michele Lombardi</i> Emerging: Wings for Pegasus: Creating Large-Scale Scientific Applications Using Semantic Representations of Computational Workflows <i>Yolanda Gil, Varun Ratnakar, Ewa Deelman, Gaurang Mehta, Jihie Kim</i>
EVENING	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. AAAI-07 Poster Demo Reception, 6:30–10:00 PM			

	REGENCY A	REGENCY C	REGENCY F	GEORGIA A
9:00–10:00 AM		AAAAI-07 Invited Talk <i>Introduction by Reid Simmons</i> Moving Toward Peer-to-Peer Human-Robot Interaction <i>Alan C. Schultz (Naval Research Laboratory)</i>		
10:20–11:20 AM	AI and the Web: Extraction and Understanding <i>Session Chair: Chris Welty</i> Harvesting Relations from the Web—Quantifying the Impact of Filtering Functions <i>Sebastian Blohm, Philipp Cimiano, Egon Stemle</i> Template-Independent News Extraction Based on Visual Consistency <i>Shuyi Zheng, Ruihua Song, Ji-Rong Wen</i> Comprehending and Generating Apt Metaphors: A Web-driven, Case-based Approach to Figurative Language <i>Tony Veale, Yanfen Hao</i>	NL Summarization and Interfaces <i>Session Chair: TBA</i> Turning Lectures into Comic Books Using Linguistically Salient Gestures <i>Jacob Eisenstein, Regina Barzilay, Randall Davis</i> Single Document Summarization with Document Expansion <i>Xiaojun Wan, Jianwu Yang</i> Enabling Domain-Awareness for a Generic Natural Language Interface <i>Yunyao Li, Ishan Chaudhuri, Huahai Yang, Satinder Singh, H. V. Jagadish</i>	Modal Logic <i>Session Chair: Yves Lesperance</i> Probabilistic Modal Logic <i>Afsaneh Shirazi, Eyal Amir</i> Prime Implicates and Prime Implicants in Modal Logic <i>Meghyn Bienvenu</i> The Modal Logic S4F, the Default Logic, and the Logic Here-and-There <i>Miroslaw Truszczyński</i>	Training Sample Selection <i>Session Chair: Dragos Margineantu</i> Active Algorithm Selection <i>Feilong Chen, Rong Jin</i> Actively Exploring Creation of Face Space(s) for Improved Face Recognition <i>Nitesh V. Chawla, Kevin W. Bowyer</i> Nectar: Informed Case Base Maintenance: A Complexity Profiling Approach <i>Susan Crow, Stewart Massie, Nirmalie Wiratunga</i>
11:30 AM–12:30 PM	AI and the Web: Reputation and Sentiment <i>Session Chair: TBA</i> Unsupervised Shilling Detection for Collaborative Filtering <i>B. Mehta</i> Mobile Service for Reputation Extraction from Weblogs—Public Experiment and Evaluation <i>T. Kawamura, S. Nagano, M. Inaba, Y. Mizoguchi</i> The Impact of Time on the Accuracy of Sentiment Classifiers Created from a Web Log Corpus <i>K. Durant, M. Smith</i>	NL Analysis <i>Session Chair: James Fan</i> Disambiguating Noun Compounds <i>Su Nam Kim, Timothy Baldwin</i> Content Analysis for Proactive Intelligence: Marshaling Frame Evidence <i>A. Sanfilippo, A. Cowell, S. Tratz, A. Boek, A. Cowell, C. Posse, L. Pouchard</i> Mining Sequential Patterns and Tree Patterns to Detect Erroneous Sentences <i>Guihua Sun, Gao Cong, Xiaohua Liu, Chin-Yew Lin, Ming Zhou</i>	Argumentation <i>Session Chair: Iyad Rahwan</i> Action-Based Alternating Transition Systems for Arguments about Action <i>Katie Atkinson, Trevor Bench-Capon</i> Reasoning from Desires to Intentions: A Dialectical Framework <i>Nicolás D. Rotstein, Alejandro J. García, Guillermo R. Simari</i> Real Arguments are Approximate Arguments <i>Anthony Hunter</i>	Machine Learning <i>Session Chair: Kiri Wagstaff</i> Nectar: Learning by Combining Observations and User Edits <i>Vittorio Castelli, Lawrence Bergman, Daniel Oblinger</i> Multi-Label Learning by Instance Differentiation <i>Min-Ling Zhang, Zhi-Hua Zhou</i>
1:50–2:50 PM	AI and the Web: Social Networks <i>Session Chair: Mark Greaves</i> Extracting Influential Nodes for Information Diffusion on a Social Network <i>Masahiro Kimura, Kazumi Saito, Ryohei Nakano</i> Temporal and Information Flow Based Event Detection from Social Text Streams <i>Qiankun Zhao, Prasenjit Mitra, Bi Chen</i> Analyzing Reading Behavior by Blog Mining <i>Tadanobu Furukawa, Mitsuru Ishizuka, Yutaka Matsuo, Ikki Ohmukai, Koki Uchiyama</i>	Decision Diagrams <i>Session Chair: TBA</i> Knowledge Compilation Properties of Tree-of-BDDs <i>Sathiamoorthy Subbarayan, Lucas Bordeaux, Youssef Hamadi</i> Compressing Configuration Data for Memory Limited Devices <i>Esben Rune Hansen, Peter Tiedemann</i> Interactive Configuration with Regular String Constraints <i>Esben Rune Hansen, Henrik Reif Andersen</i>	Theory Merging <i>Session Chair: Dongmo Zhang</i> A Model-based Approach for Merging Prioritized Knowledge Bases in Possibilistic Logic <i>Guilin Qi</i> Generality and Equivalence Relations in Default Logic <i>Katsumi Inoue, Chiaki Sakama</i> Equilibria in Heterogeneous Nonmonotonic Multi-Context Systems <i>Gerhard Brewka, Thomas Eiter</i>	Reinforcement Learning-2 <i>Session Chair: Shimon Whiteson</i> Efficient Reinforcement Learning with Relocatable Action Models <i>Bethany R. Leffler, Michael L. Littman, Timothy Edmunds</i> Active Imitation Learning <i>Aaron P. Shon, Deepak Verma, Rajesh P. N. Rao</i> Abstraction in Predictive State Representations <i>Vishal Soni, Satinder Singh</i>
	A coffee break will be held at 10:00 – 10:20 AM. The lunch break will be held from 12:30 – 1:50 PM.			

AAAI-07 Poster Session

The poster session will be held Wednesday, July 25, in the Regency Ballroom, from 6:30–10:00 PM.

Agents, Game Theory, Auctions, and Mechanism Design

- Implementing the Maximum of Monotone Algorithms. *Liad Blumrosen*
- The Impact of Network Topology on Pure Nash Equilibria in Graphical Games. *Bistra Dilkina, Carla P. Gomes, Ashish Sabharwal*
- Real Arguments are Approximate Arguments. *Anthony Hunter*
- On the Reasoning Patterns of Agents in Games. *Avi Pfeffer, Ya'akov Gal*
- Reasoning about Bargaining Situations. *Dongmo Zhang*

Constraints and Satisfiability

- Interactive Configuration with Regular String Constraints. *Esben Rune Hansen, Henrik Reif Andersen*
- Conservative Dual Consistency. *Christophe Lecoutre, Stéphane Cardon, Julien Vion*
- Solving a Stochastic Queueing Design and Control Problem with Constraint Programming. *Daria Terekhov, J. Christopher Beck, Kenneth N. Brown*
- Population-Based Simulated Annealing for Traveling Tournaments. *Pascal Van Hentenryck, Yanniss Vergados*

Knowledge and Information Systems

- Learning by Reading: A Prototype System, Performance Baseline and Lessons Learned. *Ken Barker, Bhalchandra Agashe, Shaw-Yi Chaw, James Fan, Noah Friedland, Michael Glass, Jerry Hobbs, Eduard Hovy, David Israel, Doo Soon Kim, Rutu Mulkar-Mehta, Sourabh Patwardhan, Bruce Porter, Dan Tecuci, Peter Yeh*
- A Temporal Mereology for Distinguishing between Integral Objects and Portions of Stuff. *Thomas Bittner, Maureen Donnelly*
- Learning Causal Models for Noisy Biological Data Mining: An Application to Ovarian Cancer Detection. *Ghim-Eng Yap, Ah-Hwee Tan, Hwee-Hwa Pang*

Knowledge Representation and Logic

- Equilibria in Heterogeneous Nonmonotonic Multi-Context Systems. *Gerhard Brewka, Thomas Eiter*
- Answering Regular Path Queries in Expressive Description Logics: An Automata-Theoretic Approach. *Diego Calvanese, Thomas Eiter, Magdalena Ortiz*
- Discovering Near Symmetry in Graphs. *Maria Fox, Derek Long, Julie Porteous*
- Belief Change and Cryptographic Protocol Verification. *Aaron Hunter, James P. Delgrande*
- Facts Do Not Cease to Exist Because They Are Ignored: Relativised Uniform Equivalence with Answer-Set Projection. *Johannes Oetsch, Hans Tompits, Stefan Woltran*
- A Generalized Gelfond-Lifschitz Transformation for Logic Programs with Abstract Constraints. *Yi-Dong Shen, Jia-Huai You*
- Knowledge Compilation Properties of Tree-of-BDDs. *Sathiamoorthy Subbarayan, Lucas Bordeaux, Youssef Hamadi*

Machine Learning

- A Method for Large-Scale L_1 -Regularized Logistic Regression. *Kwangmoo Koh, Seung-Jean Kim, Stephen Boyd*

Multiagents

- A New Algorithm for Generating Equilibria in Massive Zero-Sum Games. *Martin Zinkevich, Michael Bowling, Neil Burch*

Multidisciplinary Topics and Applications

- A Corpus-Based Hybrid Approach to Music Analysis and Composition. *Bill Manaris, Patrick Roos, Penousal Machado, Dwight Krehbiel, Luca Pellicoro, Juan Romero*
- Recognition of Hand Drawn Chemical Diagrams. *Tom Y. Ouyang, Randall Davis*
- Authorial Idioms for Target Distributions in TTD-MDPs. *David L. Roberts, Sooraj Bhat, Kenneth St. Clair, Charles L. Isbell*
- Humans Perform Semisupervised Classification Too. *Xiaojin Zhu, Timothy Rogers, Ruichen Qian, Chuck Kalish*

Natural-Language Processing

- A Robot That Uses Existing Vocabulary to Infer Non-Visual Word Meanings from Observation. *Kevin Gold, Brian Scassellati*

Robotics and Perception

- Hybrid Inference for Sensor Network Localization Using a Mobile Robot. *Dimitrios Marinakis, David Meger, Ioannis Rekleitis, Gregory Dudek*

Search and Metareasoning

- Heuristic Evaluation Functions for General Game Playing. *James Clune*
- Anytime Optimal Coalition Structure Generation. *Talal Rahwan, Sarvapali D. Ramchurn, Viet D. Dang, Andrea Giovannucci, Nicholas R. Jennings*
- Combining Multiple Heuristics Online. *Matthew Streeter, Daniel Golovin, Stephen F. Smith*
- Inconsistent Heuristics. *Uzi Zahavi, Ariel Felner, Jonathan Schaeffer, Nathan Sturtevant*

Uncertainty in AI

- VOILA: Efficient Feature-value Acquisition for Classification. *Mustafa Bilgic, Lise Getoor*
- Computing Optimal Subsets. *Maxim Binshtok, Ronen I. Brafman, Solomon E. Shimony, Ajay Martin, Craig Boutilier*
- AAAI-07 Outstanding Paper: Thresholded Rewards: Acting Optimally in Timed, Zero-Sum Games. *Colin McMillen, Manuela Veloso*
- Generalized Evidence Pre-propagated Importance Sampling for Hybrid Bayesian Networks. *Changhe Yuan, Marek J. Druzdziel*

Special Track on Artificial Intelligence and the Web

- A Semantic Importing Approach to Knowledge Reuse from Multiple Ontologies. *Jie Bao, Giora Slutzki, Vasant Honavar*
- Mobile Service for Reputation Extraction from Weblogs—Public Experiment and Evaluation. *Takahiro Kawamura, Shinichi Nagano, Masumi Inaba, Yumiko Mizoguchi*
- SUNNY: A New Algorithm for Trust Inference in Social Networks Using Probabilistic Confidence Models. *Ugur Kuter, Jennifer Golbeck*
- From Whence Does Your Authority Come? Utilizing Community Relevance in Ranking. *Lan Nie, Brian D. Davison, Baoning Wu*
- Deriving a Large-Scale Taxonomy from Wikipedia. *Simone Paolo Ponzetto, Michael Strube*
- Design of a Mechanism for Promoting Honesty in E-Marketplaces. *Jie Zhang, Robin Cohen*

Special Track on Integrated Intelligence

- AAAI-07 Outstanding Paper: PLOW: A Collaborative Task Learning Agent. *James Allen, Nathanael Chambers, George Ferguson, Lucian Galescu, Hyuckchul Jung, Mary Swift, William Taysom*
- An Architecture for Adaptive Algorithmic Hybrids. *Nicholas Cassimatis, Magdalena Bugajska, Scott*

Dugas, Arthi Murugesan, Paul Bello

- Integrating Natural Language, Knowledge Representation and Reasoning, and Analogical Processing to Learn by Reading. *Kenneth D. Forbus, Christopher Riesbeck, Lawrence Birnbaum, Kevin Livingston, Abhishek Sharma, Leo Ureel*
- Towards an Integrated Robot with Multiple Cognitive Functions. *Nick Hawes, Aaron Sloman, Jeremy Wyatt, Michael Zillich, Henrik Jacobsson, Geert-Jan M. Kruijff, Michael Brenner, Gregor Berginc, Danijel Skocaj*
- Spatial Representation and Reasoning for Human-Robot Collaboration. *William G. Kennedy, Magdalena D. Bugajska, Matthew Marge, William Adams, Benjamin R. Fransen, Dennis Perzanowski, Alan C. Schultz, J. Gregory Trafton*
- An Integrated Robotic System for Spatial Understanding and Situated Interaction in Indoor Environments. *Hendrik Zender, Patric Jensfelt, Óscar Martínez Mozos, Geert-Jan M. Kruijff, Wolfram Burgard*

New Scientific and Technical Advances in Research (NECTAR)

- Online Collective Entity Resolution. *Indrajit Bhat-tacharya, Lise Getoor*
- Using Eye-Tracking Data for High-Level User Modeling in Adaptive Interfaces. *Cristina Conati, Christina Merten, Saleema Amershi, Kasia Muldner*
- Informed Case Base Maintenance: A Complexity Profiling Approach. *Susan Crow, Stewart Massie, Nirmalie Wiratunga*
- The Pyramid Match: Efficient Learning with Partial Correspondences. *Kristen Grauman*
- A* Search via Approximate Factoring. *Aria Haghighi, John DeNero, Dan Klein*
- Modeling and Learning Vague Event Durations for Temporal Reasoning. *Feng Pan, Rutu Mulkar-Mehta, Jerry R. Hobbs*
- Learning and Inference for Hierarchically Split PCFGs. *Slav Petrov, Dan Klein*
- Refutation by Randomised General Resolution. *Steven Prestwich, Inês Lynce*

Student Abstracts

- Data Clustering with a Relational Push-Pull Model. *Adam Anthony, Marie desJardins*
- UNDERTOW: Multi-Level Segmentation of Real-Valued Time Series. *Tom Armstrong, Tim Oates*
- Explanation Support for the Case-Based Reasoning Tool *myCBR*. *Daniel Bahls, Thomas Roth-Berghofer*
- A Markovian Model for Dynamic and Constrained Resource Allocation Problems. *Camille Besse, Ibrahim Chaib-draa*
- Implementing Modal Extensions of Defeasible Logic for the Semantic Web. *Nikos Dimaresis, Grigoris Antoniou*
- Ungreedy Methods for Chinese Deterministic Dependency Parsing. *Xiangyu Duan, Jun Zhao, Bo Xu*
- Using Multiresolution Learning for Transfer in Image Classification. *Eric Eaton, Marie desJardins, John Stevenson*
- Robust Estimation of 3-D Line Segments from Satellite Images for Model Building and Change Detection. *Ibrahim Eden, David B. Cooper*
- Classifiers Fusion for EEG Signals Processing in Human-Computer Interface Systems. *Maryam Esmaeili*
- On Policy Learning in Restricted Policy Spaces. *Robby Goetschalckx, Jan Ramon*
- Two Approaches for Building an Unsupervised Dependency Parser and Their Other Applications. *Jagadeesh Gorla, Amit Goyal, Rajeev Sangal*

ASKNet: Automated Semantic Knowledge Network. *Brian Harrington*

TeamTalk: A Platform for Multi-Human-Robot Dialog Research in Coherent Real and Virtual Spaces. *Thomas K. Harris, Alexander I. Rudnický*

Reputation in the Venture Games. *Philip Hendrix, Barbara J. Grosz*

Evolutionary Rhythm Composition with Trajectory-based Fitness Evaluation. *John Huddleston, Jian-na Zhang*

Identifying Protein Interaction Abstracts with Contextual Bag of Words. *Hsi-Chuan Hung, Richard Tzong-Han Tsai, Wen-Lian Hsu*

Modeling User Perception of Interaction Opportunities in Collaborative Human-Computer Settings. *Ece Kamar, Barbara J. Grosz, David Sarne*

Towards an Adaptive Approach for Distributed Resource Allocation in a Multi-agent System for Solving Dynamic Vehicle Routing Problems. *Igor Kiselev, Andrey Glaschenko, Alexander Chevelev, Petr Skobelev*

On Possible Applications of Rough Mereology to Handling Granularity in Ontological Knowledge. *Pavel Klinov, Lawrence J. Mazlack*

Fuzzy Set Theory-Based Belief Processing for Natural Language Texts. *Ralf Krestel, René Witte, Sabine Bergler*

Knowledge-Driven Learning and Discovery. *Benjamin Lambert, Scott E. Fahlman*

Reinforcement Using Supervised Learning for Policy Generalization. *Julien Laumonier*

Aggregating User-Centered Rankings to Improve Web Search. *Lin Li, Zhenglu Yang, Masaru Kitsuregawa*

Recommending Travel Packages Upon Distributed Knowledge. *Fabiana Lorenzi, Ana L.C. Bazzan, Mara Abel*

BlogVox: Learning Sentiment Classifiers. *Justin Martineau, Akshay Java, Pranam Kolari, Tim Finin, Anupam Joshi, James Mayfield*

Impromptu Teams of Heterogeneous Mobile Robots. *Ross Mead, Jerry B. Weinberg*

Time-Delay Neural Networks and Independent Component Analysis for EEG-Based Prediction of Epileptic Seizures Propagation. *Piotr W. Mirowski, Deepak Madhavan, Yann LeCun*

Using Iterated Best-Response to Find Bayes-Nash Equilibria in Auctions. *Victor Naroditskiy, Amy Greenwald*

The Marchitecture: A Cognitive Architecture for a Robot Baby. *Marc Pickett I, Tim Oates*

Integrative Construction and Analysis of Condition-specific Biological Networks. *Sushmita Roy, Ter-ran Lane, Margaret Werner-Washburne*

Extracting Student Models for Intelligent Tutoring Systems. *John C. Stamper, Tiffany Barnes, Marvin Croy*

Unscented Message Passing for Arbitrary Continuous Variables in Bayesian Networks. *Wei Sun, Kuo-Chu Chang*

An Investigation into Computational Recognition of Children's Jokes. *Julia M. Taylor, Lawrence J. Mazlack*

Representation Transfer via Elaboration. *Matthew E. Taylor, Peter Stone*

Situated Conversational Agents. *Will Thompson*

Scaling Up: Solving POMDPs through Value Based Clustering. *Yan Virin, Guy Shani, Solomon E. Shimony, Ronen I. Brafman*

Learn to Compress and Restore Sequential Data. *Yi Wang, Jianhua Feng, Shixia Liu*

Interest-Matching Comparisons Using CP-nets. *Andrew W. Wicker, Jon Doyle*

Counting Models Using Extension Rules. *Minghao Yin, Hai Lin, Jigui Sun*

User Model and Utility Based Power Management. *Chih-Han Yu, Shie Mannor, Georgios Theocharous, Avi Pfeffer*

Measuring the Uncertainty of Differences for Contrasting Groups. *Jilian Zhang, Shichao Zhang, Xiaofeng Zhu, Xindong Wu, Chengqi Zhang*

Cost-Sensitive Imputing Missing Values with Ordering. *Xiaofeng Zhu, Shichao Zhang, Jilian Zhang, Chengqi Zhang*

Handling Non-Sentential Utterances in a Continuous Understanding Framework. *Carlos Gómez Gallo*

ASKNet: Automatically Generating Semantic Knowledge Networks. *Brian Harrington*

A Framework for Modeling Influence, Opinions and Structure in Social Media. *Akshay Java*

Empirical Game-Theoretic Methods for Strategy Design and Analysis in Complex Games. *Christopher Kiekintveld*

Using Spatial Language in Multi-Modal Knowledge Capture. *Kate Lockwood*

Responding to Student Affect and Efficacy through Empathetic Companion Agents in Interactive Learning Environments. *Scott W. McQuiggan*

The Übercruncher: Concept Formation by Analogy Discovery. *Marc Pickett I*

Harnessing Algorithm Bias in Classical Planning. *Mark Roberts*

Reacting to Agreement and Error in Spoken Dialogue Systems Using Degrees of Groundedness. *Antonio Roque*

A Framework for Ontology-Based Service Selection in Dynamic Environments. *Murat Sensoy*

Flexible Provisioning of Service Workflows. *Sebastian Stein*

Autonomous Inter-Task Transfer in Reinforcement Learning Domains. *Matthew E. Taylor*

Predictive Exploration for Autonomous Science. *David R. Thompson*

Spatial Reference Resolution for an Embodied Dialogue Agent. *Timothy Weale*

An Incentive Mechanism for Promoting Honesty in E-Marketplaces. *Jie Zhang*

Please see page 17 for the list of Intelligent Systems Demonstrations.

Doctoral Consortium Abstracts

Continuous State POMDPs for Object Manipulation Tasks. *Emma Brunskill*

Approximate Inference in Probabilistic Graphical Models with Determinism. *Vibhav Gogate*

Regency Ballroom, Poster / Demo Floorplan

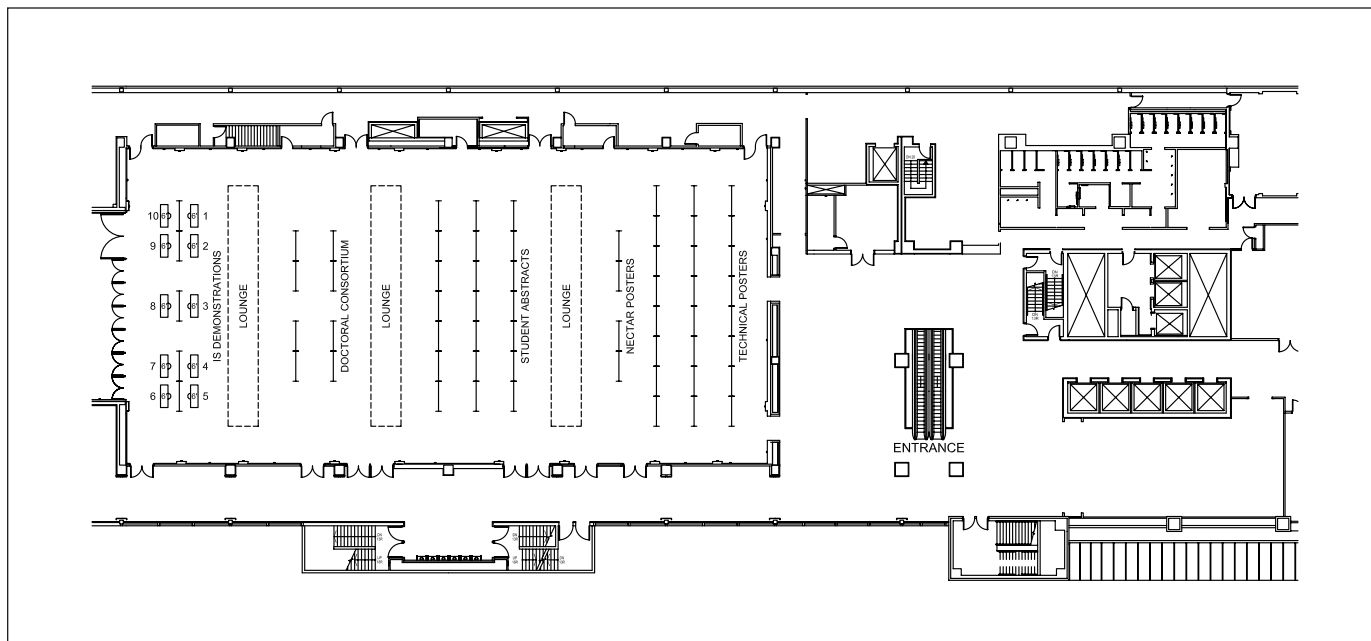


Exhibit Program

The AAAI-07 Exhibit Program will be held Tuesday–Thursday, July 24–26, in the Regency Foyer, Convention Level, Hyatt Regency.

Exhibit Hours

Tuesday, July 24: 9:00 AM–6:00 PM
Wednesday, July 25: 1:00 PM–9:30 PM
Thursday, July 26: 9:00 AM–12:00 PM

Exhibitors

AAAI Press

445 Burgess Drive
Menlo Park, CA 94025-3442
Tel: 650-328-3123
Fax: 650-321-4457
Email: info07@aaai.org
Online: www.aaai.org/Press/press.php

BAE Systems, Advanced Information Technologies

6 New England Executive Park
Burlington, MA 01803
Tel: 781-262-4511
Baesystems.com

Cambridge University Press

32 Avenue of the Americas
New York, NY 10013-2473

Visit the CUP stand for a 20 percent discount on all books and journals on display at AAAI-07. New editions of bestselling titles include the eagerly-awaited *Third Edition of Numerical Recipes*; the second edition of Suchman's *Human-Machine Configurations*; and the second edition of *The Description Logic Handbook* by Baader, et al. Brand-new titles include Kogan's *Introduction to Clustering Large and High Dimensional Data*; Cucker and Zhou's *Learning Theory*; and Apt and Wallace's *Constraint Logic Programming Using Eclipse*.

Google Inc.

1600 Amphitheatre Parkway
Mountain View, CA 94043
650-253-0000
650-253-0001 (Fax)

Google's innovative search technologies connect millions of people around the world with information every day. Founded in 1998 by Stanford Ph.D. students Larry Page and Sergey Brin, Google today is a top web property in all major global markets. Google's targeted advertising program provides businesses of all sizes with measurable results, while enhancing the overall web experience for users. Google is headquartered in Silicon Valley with of-

fices throughout the Americas, Europe, and Asia. Stop by our booth to learn more about research and career opportunities around the world.

Kodak Intelligence Systems Research Center

1999 Lake Avenue
Rochester, NY 14650-2217
isrc@kodak.com
585-588-9945

The Intelligent Systems Research Center at Kodak Research Laboratories performs research in machine learning, computer vision, automated planning, and ubiquitous computing in support of Kodak's digital business units. Current projects include learning to interpret multi-modal data, automated planning for print shop workflow, gesture recognition, and the camera of the future. KRL supports research collaborations at many universities through Kodak Educational Alliances, and has opportunities for graduate summer internships in computer science, material science, electrical engineering, and other fields. For more information visit research.kodak.com.

Microsoft Research

One Microsoft Way
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Morgan and Claypool is announcing the *Synthesis Lectures on Artificial Intelligence and Machine Learning* edited by Ron Brachman and Tom Dietterich. Synthesis lectures are 50-150 page revisable digital documents presenting key topics written by prominent contributors for an audience of students, researchers and developers. Synthesis lectures are available by institutional subscription to the *Synthesis Digital Library of Engineering and Computer Science* and for individual digital and print purchase. Just published: Peter Stone: *Intelligent Autonomous Robotics: A*

Robot Soccer Case Study and Nikos Vlassis: *A Concise Introduction to Multiagent Systems and Distributed Artificial Intelligence*.

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The Alberta Ingenuity Centre for Machine Learning is a world-class institute recognized for its pure and applied research into many areas of machine learning. We are seeking the best undergraduates, graduate students and post doctoral fellows to join us at the University of Alberta. Long term (sabbatical) visits available.

Intelligent Systems Demonstrations

The Intelligent Systems Demonstrations will be held Wednesday, July 25, in the Regency Ballroom, from 6:30–10:00 PM.

Continuing advances in artificial intelligence research are making it possible to develop intelligent systems in a wide range of application areas. The AAAI-07 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 a broad range of domains: game playing, semantic web, distributed optimization, 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

AURA: Enabling Domain Experts to Construct Declarative Knowledge Bases from Science Textbooks

Ken Barker (University of Texas at Austin), Vinay Chaudhri (SRI International), Shaw-Yi Chaw (University of Texas at Austin), Peter E. Clark (The Boeing Company), Daniel Hansch (Ontoprise), Bonnie John (Carnegie Mellon University), Sunil Mishra (SRI International), John Pacheco (SRI International), Bruce Porter (University of Texas at Austin), Aaron Spaulding (SRI International), Moritz Weiten (Ontoprise)

We will demonstrate the AURA system that can enable students in physics, chemistry, and biology to author knowledge in a college level science textbook in a way that the resulting knowledge base can be used to answer questions from an Advanced Placement examination in the respective discipline. The system supports a knowledge formulation interface based on concept maps, equations, tables and a query formulation interface based on controlled English. We will also demonstrate a semantic wiki application for collaborative knowledge formulation and show how users can map large amounts of the wiki's knowledge into AURA.

Table #1

A Demonstration of ScriptEase: Interuptible and Resumable Behaviors for CRPGs

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

We developed a behavior model based on generative design patterns for intelligent non-player characters (NPCs) using ScriptEase that

solves the difficult problem of interacting NPCs and of interruptible and resumable behaviors. We demonstrate how this model generates complex NPC behaviors from behavior patterns in a commercial game without writing code.

Table #2

A Deployed Semantically-Enabled Interdisciplinary Virtual Observatory

Deborah McGuinness (Stanford University and McGuinness Associates), Peter Fox (National Center for Atmospheric Research), Luca Cinquini (National Center for Atmospheric Research), Patrick West (National Center for Atmospheric Research), Jose Garcia (National Center for Atmospheric Research), James L. Benedict (McGuinness Associates), Don Middleton (National Center for Atmospheric Research)

We have used semantic technologies to design, implement, and deploy an interdisciplinary virtual observatory. The Virtual Solar-Terrestrial Observatory is a production data framework providing access to observational datasets. It is in use by a community of scientists, students, and data providers interested in the middle and upper Earth's atmosphere, and the Sun. The data sets span upper atmospheric terrestrial physics to solar physics. The observatory allows virtual access to a highly distributed and heterogeneous set of data that appears as if all resources are organized, stored and accessible from a local machine. The system has been operational since the summer of 2006 and has shown registered data access by over 75 percent of the active community (last count over 600 of the estimated 800 person active research community). This demonstration will highlight how semantic technologies are being used to support data integration and more efficient data access in a multi-disciplinary setting. A full paper on this work is being published in the IAAI 07 deployed paper track.

Table #7

Evac-Op: Disaster Evacuation Support

Christopher J. Carpenter, Christopher J. Dugan, Joseph B. Kopena, Robert N. Lass, Gaurav Naik, Duc N. Nguyen, Evan Sultanik, Pragnesh Jay Modi, William C. Regli (Drexel University)

Evac-Op is a prototype system for assisting emergency personnel in monitoring and conducting evacuation and sheltering operations. It is a novel application of distributed constraint optimization combined with mobile wireless networking to sharing situation information and making global decisions on issues such as shelter assignments. In addition to exploring this application and new applications of distributed constraint optimization, Evac-Op is intended as a vehicle for investigating distributed decision making under poor communications, uncertainty, and change.

Table #3

A Framework for Experimental Research of Autonomous Trading Agents

Eric Sodomka, John Collins, Maria Gini (University of Minnesota)

The Trading Agent Competition for Supply Chain Management is a market simulation in

which autonomous agents act as manufacturers in a two-tier supply chain marketplace. The objective of this demonstration is to showcase various methods our research team and others have developed in this domain to run simulations and analyze agent performance in an efficient manner.

Table #4

Freebase: A Shared Database of Structured General Human Knowledge

Kurt Bollacker and Timothy Kientzle (Metaweb Technologies, Inc.)

Freebase is a practical, scalable, graph-shaped database of structured, general human knowledge, inspired by semantic web research and collaborative data communities such as wikipedia. Freebase allows public reads and writes through an http-based graph-query API and a sophisticated AJAX for web access. (See www.freebase.com)

Table #8

Generating and Solving Logic Puzzles through Constraint Satisfaction

Barry O'Sullivan and John Horan (University College Cork, Ireland)

Solving logic puzzles has become a very popular pastime, particularly since the Sudoku puzzle started appearing in newspapers all over the world. We have developed a puzzle generator for a modification of Sudoku, called Jidoku, in which clues are binary disequalities between cells on a 9 x 9 grid. Our generator guarantees that puzzles have unique solutions, have graded difficulty, and can be solved using inference alone.

This demonstration provides a fun application of many standard constraint satisfaction techniques, such as problem formulation, global constraints, search and inference. It is ideal as both an education and outreach tool. Our demonstration will allow people to generate and interactively solve puzzles of user-selected difficulty, with the aid of hints if required, through a specifically built Java applet.

Table #5

An Interactive Constraint-Based Approach to Sudoku

Christopher G. Reeson (University of Nebraska-Lincoln), Kai-Chen Huang (USC/Information Sciences Institute), Berthe Y. Choueiry (University of Nebraska-Lincoln and USC/Information Sciences Institute)

We present a Java applet that allows a user to interactively solve a Sudoku puzzle using constraint processing (CP) techniques. Our system showcases the power of CP techniques in solving problems through a widely familiar and easily approachable puzzle. It allows the users to apply several consistency algorithms or work independently of our algorithms. The system is available online: sudoku.unl.edu/Solver and sudoku.unl.edu/Constructor.

Table #10

The More the Merrier: Multi-Party Negotiation with Virtual Humans

Patrick Kenny, Arno Hartholt, Jonathan Gratch, David Traum, Stacy Marsella, Bill Swartout (USC/Institute for Creative Technologies)

The Institute for Creative Technologies at USC virtual human demo will focus on fully embodied conversational characters that contain task and emotion models. The user will use natural speech to negotiate with the agents to move a clinic. The agents will engage in multi-party dialogue using verbal and nonverbal behavior.

Table #9

The PhotoSlap Game: Play to Annotate

Tsung-Hsiang Chang, Chien-Ju Ho, and Jane Yung-jen Hsu (National Taiwan University)

PhotoSlap, an intelligent system for semantic annotation of photos, contains a semiautomatic face detector, a bulk annotation tool, and a multi-player online game. By exploring the design principles of gameplay and applying game theoretic analysis, PhotoSlap is designed as a fun and productive game, which adapts itself to different players to produce the desired output.

Competitions

AI Video Competition

The AI Video competition will be held Monday, July 23, 9:00 AM–8:00 PM in the North Regency Foyer. Awards will be presented at 7:00 PM.

AAAI is holding an exciting new event this year at AAAI-07, which will take place during the opening reception: The inaugural AI Video Competition (www.aivideo.org). Come and watch some exciting videos about AI. And witness the best videos in the field win a “Shakey”—AAAI’s new award for the best short videos in AI.

The objective of this competition has been to communicate to the world the fun of pursuing research in AI, and illustrate the impact of some of our applications. Submitters were asked to create narrated videos of 1-5 minutes in length, focused on interesting AI research. Videos were then reviewed by an international program committee, led by the founding chairs of this competition, David Aha and Sebastian Thrun. The creators of the best videos will be presented with awards named in honor of Shakey, SRI’s pioneering robot. Be sure not to miss the winners of this cool online video about AI research and applications! AAAI gratefully acknowledges the generous contributions of Microsoft Research and Yahoo! Research, which made this program possible.

General Game Playing Competition

The General Game Playing Competition will be held Sunday–Monday, July 22–23, in the Prince of Wales room and the follow-up **Human Versus Machine Exhibition** will be held Tuesday–Thursday, July 24–26, in Plaza A.

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.

Because game descriptions are presented at runtime, unlike specialized game players such as Deep Blue, general game players cannot rely on algorithms designed in advance for specific games. Instead, to perform well general game players must incorporate various artificial intelligence technologies and techniques such as knowledge representation, reasoning, learning, and rational decision-making. Moreover, they must do so in an integrated fashion.

While general game playing is a topic with inherent interest, work in its area has practical value as well. Its underlying technology can be used in a variety of other application areas, such as business process management, electronic commerce, and military operations.

The Competition

This year’s 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 2007 competition will consist of four rounds of competition held during June 2007, with a final championship round to be held in Vancouver at the AAAI. Over the four rounds, each general game player will play approximately 80 matches, where the combined scores accumulated during those matches will be used to determine player rankings as well as the finalists in the championship round. The winner of the championship round will be crowned the winner of the competition, and its programmer(s) will be awarded a \$10,000 prize. Additionally, this year’s winner will be given the opportunity to compete in a special general-game-player-versus-human exposition match. AAAI gratefully acknowledges the generous contribution of Michael Gense, who has made this award possible.

Entrants will compete on a wide variety of games organized into taxonomies designed to isolate features of general games that are both exploitable and scientifically interesting. Examples of such taxonomies include number of players, branching factor, repeated states, and decomposability into independent subgames. Entrants will be expected to play games that require both competition and cooperation, as well as games that may not be exhaustively searchable in the time allowed. Prior to competition, entrants will be told nothing about the games that they will play beyond the taxonomies that they will be organized into. Instead, the rules for all games will be transmitted to players electronically at the beginning of each match.

Computer Poker Competition

The Computer Poker Competition will be held Tuesday–Thursday, July 24–26 in Plaza B.

For the second annual AAAI Computer Poker Competition, 28 teams from 10 countries will develop computer programs for playing heads-up limit and no-limit Texas Hold’em. Programs will be judged based upon their robustness (ability to beat any opponent head-to-head) and their ability to learn (to exploit weaker opponents for more money). The University of Alberta is providing 34 months of computer time to allow each program to play millions of hands. At AAAI, the results, highlighted hands, and posters describing the bots will be presented. Visitors will have an opportunity to play against some of the submitted poker programs.

Man Versus Machine Poker Challenge

The Man Versus Machine Poker Challenge will be held Monday, July 23, from 12:00 PM–7:00 PM, in Regency B and Tuesday, July 24, from 9:00 AM–5:00 PM, in Plaza B.

AAAI will play host to the first scientific man versus machine challenge in poker. Poker is a game of skill and luck. A “short” match, even one of 10,000 hands, may not be enough to identify the better player. At AAAI, two professional poker players (Phil Laak and Ali Esmali) will play a duplicate match against two copies of the University of Alberta Polaris poker program. There will be four sessions played, each with \$5,000 at stake. In a session, each human plays 500 hands against a copy of Polaris. However, the cards dealt in the first match to the human will be dealt to the computer in the second match, and vice versa. The result of the session is the sum of the two humans’ scores versus the sum of the two programs’ scores. This format, inspired by the rules of duplicate bridge, significantly reduces the luck element, increasing the chances that the best team will win based on skill.

The matches will be played in front of an audience, and the human competitors will be encouraged to think out loud. The result will be entertaining, and give insights as to the state of the art in AI technology for a challenging imperfect information domain.

Trading Agent Competition

The Trading Agent Competition will be held Tuesday–Thursday, July 24–26, in Plaza C.

The annual Trading Agent Competition (TAC) pits agents from research groups around the world against each other in challenging market-trading domains. The 2007 tournament features a supply chain management (SCM) game, as well as a

new game in the domain of market design. In TAC/SCM, agents representing PC manufacturers bid for customer orders, negotiate with suppliers for components, and manage their production schedules in order to maximize profits.

The 2007 TAC/SCM tournament comprises a main event for the SCM game, and two special challenge divisions focusing on specialized tasks: price forecasting and long-term procurement. In a new market design game (dubbed “CAT,” or reverse TAC), the agents represent market specialists who compete by setting rules and matching policies to attract traders and mediate profitable trades.

Preliminary rounds for TAC-07 were held during June and July, with final rounds to be held at the AAAI-07 conference, starting Monday at the workshop on Trading Agent Design and Analysis, and continuing Tuesday and Wednesday during the main conference. More details, including game rules and the call for participation can be found at www.sics.se/tac.

Sixteenth Annual AAAI Mobile Robot Competition and Exhibition

The AAAI Mobile Robot Competition and Exhibition will be held Monday–Thursday, July 23–26 in Balmoral.

The robot program brings together teams from universities, colleges, and research laboratories to compete and to demonstrate cutting edge, state of the art research in robotics and artificial intelligence.

Mobile Robot Workshop

The robot events commence with a workshop where participants describe the research behind their entries. The workshop will include a panel of academic, industrial, and governmental roboticists that will address “The Personal Robotics Revolution: Where does it stand and where is it going?”

Semantic Robot Vision Challenge

In this competition, robots are given a listing of objects that they must locate and recognize. In order to determine what these objects look like, the robots are given an opportunity to search the web for images of the objects in their list before starting their search. This competition attempts to push the state of the art of semantic image understanding by requiring that robots make use of the wealth of unstructured image data that exist on the Internet today.

The Robot Exhibition

The mission of the Robot Exhibition is twofold. The first goal is 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.

General Cochairs

Jeffrey Forbes, Duke University
Paul Oh, Drexel University

Semantic Robot Vision Cochairs

Paul Rybski, Carnegie Mellon University
Alexei Efros, Carnegie Mellon University

Exhibition Chairs

Research: Andrea L. Thomaz, Massachusetts Institute of Technology
Education: Zach Dodds, Harvey Mudd College

Mobile Robot Workshop Chair

Chad Jenkins, Brown University

Robot Teams

Brown University

Robotics, Learning and Autonomy at Brown
Event: Robot Exhibition

Harvey Mudd College

Event: Robot Exhibition

Kansas State University

KSU Willie
Event: Robot Competition

Princeton University/University of Illinois at Urbana-Champaign

OPTIMOL
Team Members: Fei-Fei Li (Princeton), Jia Li (Illinois), Juan Carlos Nieves (Illinois), Brendan Collins (Princeton), Rahul Mehta (Illinois)
Event: Robot Competition and Exhibition

OPTIMOL is a novel, automatic dataset collecting and model learning system for object categorization developed by a joint UIUC-Princeton team. Our algorithm mimics the human learning process of iteratively cumulating model knowledge and image examples. As a fully automated system, OPTIMOL uses the Internet as the (nearly) unlimited resource for images. The learning and image collection processes are done by applying object recognition techniques in an iterative and incremental way. The goal of this work is to use the tremendous web resource to learn robust object category models in order to detect and search for objects in real-world cluttered scenes.

Southern Illinois University, Edwardsville

Fishtank Assassin
Event: Robot Exhibition

University of British Columbia

UBC LCI Robotics
Event: Robot Competition

University of Manitoba

Keystone Mixed Reality
Event: Robot Exhibition

University of Washington

Team Sunflowers
Team Contact: Masaharu Kobashi
Event: Robot Competition and Exhibition
Our robot interprets the environment by vision

and it does not use any range finder. It has two video cameras whose pan, tilt, vergence, focus, and exposure are controlled by the installed computers to perform the active vision. It can accommodate up to five ATX size computer motherboards to handle the CPU intensive vision computation. The robot is designed for both indoor and outdoor use equipped with two powerful motors and sturdy chassis that can carry up to 250 pounds of batteries for extended operation of powerful computers.

Virginia Tech

RoMeLa: Robotics and Mechanisms Laboratory
Team Members: Dennis Hong, Karl Muecke, Brad Pullins, and Gabriel Goldman
Event: Robot Exhibition

“DARwIn: Dynamic Anthropomorphic Robot with Intelligence” is a humanoid bipedal robot research platform to study dynamic gaits and locomotion. Outfitted with a sensor suite and computers, DARwIn can also perform complicated high-level tasks and autonomous behaviors such as playing soccer. DARwIn will be the first and only US entry into the humanoid division of the international autonomous soccer competition, RoboCup.

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. Smoking, drinking and eating are not allowed in any of the technical, tutorial, workshop or IAAI sessions.

Banking

There is an ATM at Royal Bank located in the Royal Centre Mall by Rexall Drugs, adjacent to the Hyatt. The Bank of Montreal is located across the street from the Hyatt in Bentall Mall.

Business Centers

The Hyatt Regency Vancouver offers an extensive selection of business services for its guests. The services include photocopying, on-site computer and software use, courier services, facsimile services, office supplies, equipment rental, shipping and postal services and more. The Business Center is located on the Lobby Level, across from the front desk and is open Monday–Friday, 7:00 AM–7:00 PM. If you need assistance with copying, faxing or computer services after hours, please contact the front desk. Telephone: 604-639-4767.

Staples Office Supply and services is located in Royal Centre Mall. FedEx Kinko’s

is located on Pender Street (3 blocks from the Hyatt).

Career Information

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

Handicapped Facilities

The Hyatt Regency Vancouver is committed to ensuring that they meet and exceed all of the requirements of Access Canada. The staff is trained to accommodate guests with special needs, so that all guests, including those with disabilities, are able to have an enjoyable and safe stay.

Hotel Shops

A host of shops and services are available to Hyatt guests in the adjacent Royal Centre. Easily accessible through the hotel lobby, Royal Centre features men's and women's clothing, sundries and gifts, drugs and cosmetics, travel agency, office supplies, newsstand, florist, shoe repair and a full service spa. Shopping Hours: Monday–Friday, 9:30 AM–5:30 PM and Saturday, 10:00 AM–4:00 PM. Closed on Sundays.

Housing

For information regarding hotel reservations, please contact the hotel directly. For student housing, please contact University of British Columbia at 604-822-1000.

Internet Access

Arrangements have been made for AAAI-07 attendees to receive complimentary wireless access in some of the public areas of the Hyatt. The number of users is limited per area. There is a charge of \$9.95 CAD per 24-hour day for wireless Internet access in the sleeping rooms.

Please Note: AAAI-07 and the Hyatt Regency Vancouver strongly recommend that users take measures to ensure the security of their Internet connections. Like any high-speed service, including DSL and cable, the Hyatt's 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 users and cannot guarantee or otherwise be responsible for their effectiveness. It is the user'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

Hyatt Regency Vancouver offers valet and self-parking options for its guests. The cost for valet parking is \$28.00/CAD per day and the cost for self-parking is \$24.00/CAD per day. All parking includes 24-hour in/out privileges, as well as taxes.

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 King George Room, located on the third level of the Hyatt Regency Vancouver during registration hours. All tickets must be redeemed onsite by Thursday, July 26 at 11:00 AM. AAAI cannot mail CDs to registrants after the conference.

Restaurants

There are over 20 restaurants and fast food outlets in the Royal Center Mall connected to the Hyatt. Popular eateries in the Royal Center include McDonald's, Starbucks Coffee, Subway, Six Sense Care, Flying Wedge Pizza and more. Restaurant hours vary and they are closed on Sunday.

Mosaic Bar and Grille, (Hyatt Regency Vancouver)

From the elevated perch of the second-story locale, diners can gaze upon the bustling street scenes as well as the nearby mountains and ocean. The Mosaic offers hearty breakfasts, gourmet lunch entrees and salads, delicious dinner options, and tempting desserts. Be sure to visit the colorful and welcoming lounge for a refreshing drink before dinner in the Mosaic.

Breakfast Hours: Monday through Friday, 6:30 AM–11:00 AM (buffet until 10:00 AM); Saturday and Sunday, 6:30 AM–11:30 AM

Lunch Hours: 11:30 AM–2:00 PM daily

Dinner Hours: 5:30 PM–10:00 PM daily; Mosaic Bar, 11:30 AM–11:00 PM daily

Latte Café and Bistro (Hyatt Regency Vancouver)

Latte Café and Bistro serves up delicious foods and beverages for its busy guests on the run. Freshly brewed coffee, pastries and open-faced sandwiches and salads are available. Wi-fi service is available in the Bistro. Open Monday through Friday, 6:00 AM–5:00 PM and weekends, 6:30 AM–2:00 PM.

Shipping

The Hyatt Regency Vancouver Business Centre located on the Lobby Level, across from the front desk can assist with shipping and postal services.

Transportation

Taxi

Taxis are available at the airport 24-hours a day, including wheelchair accessible vans. Taxi queue areas are located at both the domestic and international terminals. The approximate cost to the Hyatt is \$30.00 CAD.

Shuttle Service

Airporter Bus (to and from Vancouver International Airport): Bright green bus labeled "Airporter." *To the airport:* Scheduled pickups begin at 7:30 AM at the hotel. Please see the concierge for an exact schedule.

Tickets may be purchased at the hotel, airport, or on the bus. The cost is \$13.50 CAD one way, and \$21.00 CAD roundtrip per adult, \$6.00 CAD one way and \$12.00 CAD roundtrip for children. Senior and family discounts are available. For more information, visit www.yvrairporter.com/

City Transit System

Skytrain—this fast and effective transportation system will get you to your destination quickly and easily. The Burrard Station is located across the street from the Hyatt Regency. Single trip and Day Passes are available.

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 Hyatt Regency Vancouver, University of British Columbia, Levy Show Service Inc., Vancouver International Airport, and all other service providers (hereinafter referred to as "Supplier(s)" for the AAAI Conference on Artificial Intelligence and the Innovative Applications Conference), 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-07/IAAI-07 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.

Registration

Conference registration is located on the third level of the Hyatt Regency Vancouver, beginning Sunday, July 22. Registration hours are:

Sunday, July 22	7:30 AM–6:00 PM
Monday, July 23	7:30 AM–6:00 PM
Tuesday, July 24	8:00 AM–5:30 PM
Wednesday, July 25	8:30 AM–5:30 PM
Thursday, July 26	8:30 AM–12:00 PM

Only checks drawn on U.S. banks, U.S. and Canadian currency, VISA, MasterCard, American Express, and traveler's checks will be accepted.

Registration Fees

All fees quoted are in US dollars. A Canadian conversion rate is available at onsite registration.

The AAAI-07/IAAI-07 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-07/IAAI-07 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. In addition to the fee below, all tutorial participants must register for the AAAI-07/IAAI-07 technical program.

Regular	\$150
Student	\$40

Workshop Program

Includes admittance to one workshop and the accompanying technical report.

Workshop with technical program

Regular	\$170 (\$255 for 2-day)
Student	\$150 (\$230 for 2-day)

Workshop Only (no technical program)

Regular	\$305 (\$380 for 2-day)
Student	\$200 (\$270 for 2-day)

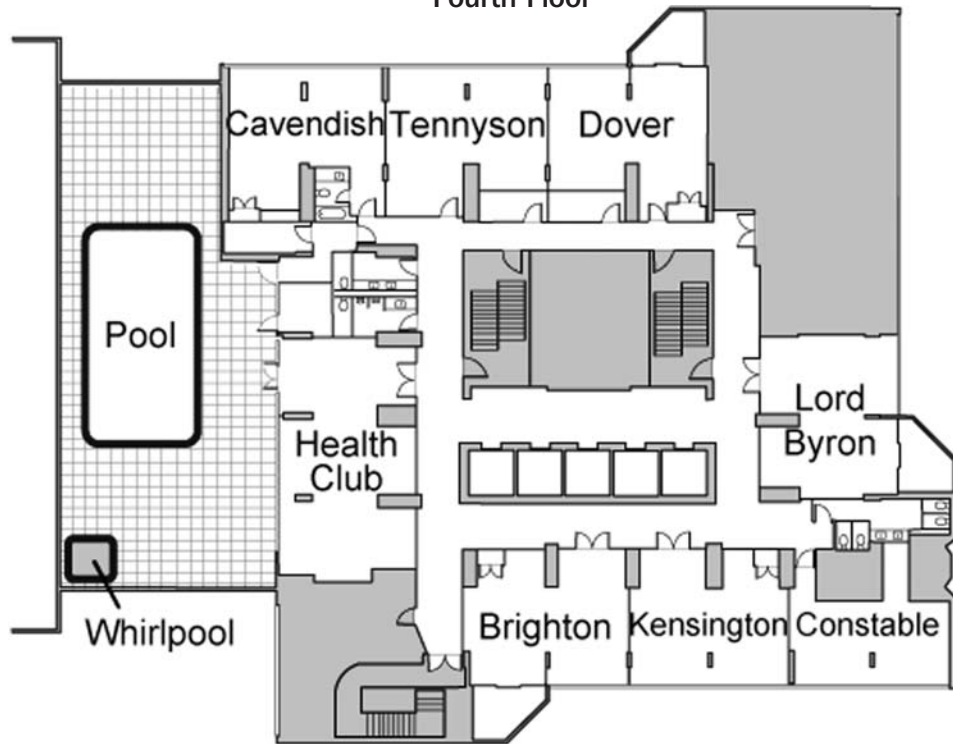
Opening Reception (Monday, July 23)

Adult Guest	\$30.00
Child	\$10.00

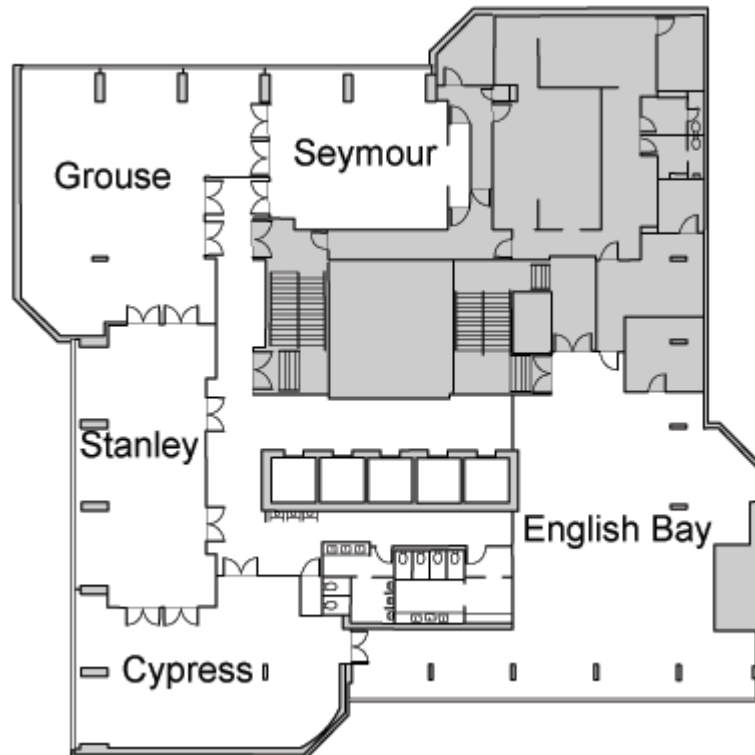
Poster/Demo Reception (Wednesday, July 25)

Adult Guest	\$45.00
Child	\$10.00

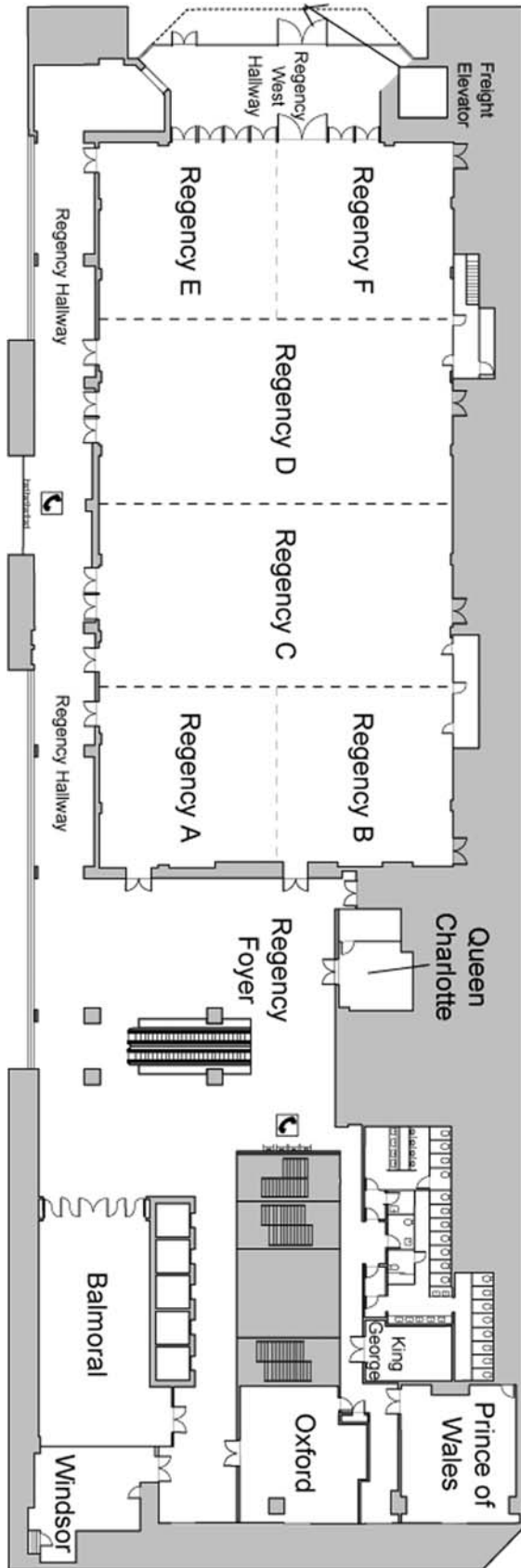
Fourth Floor



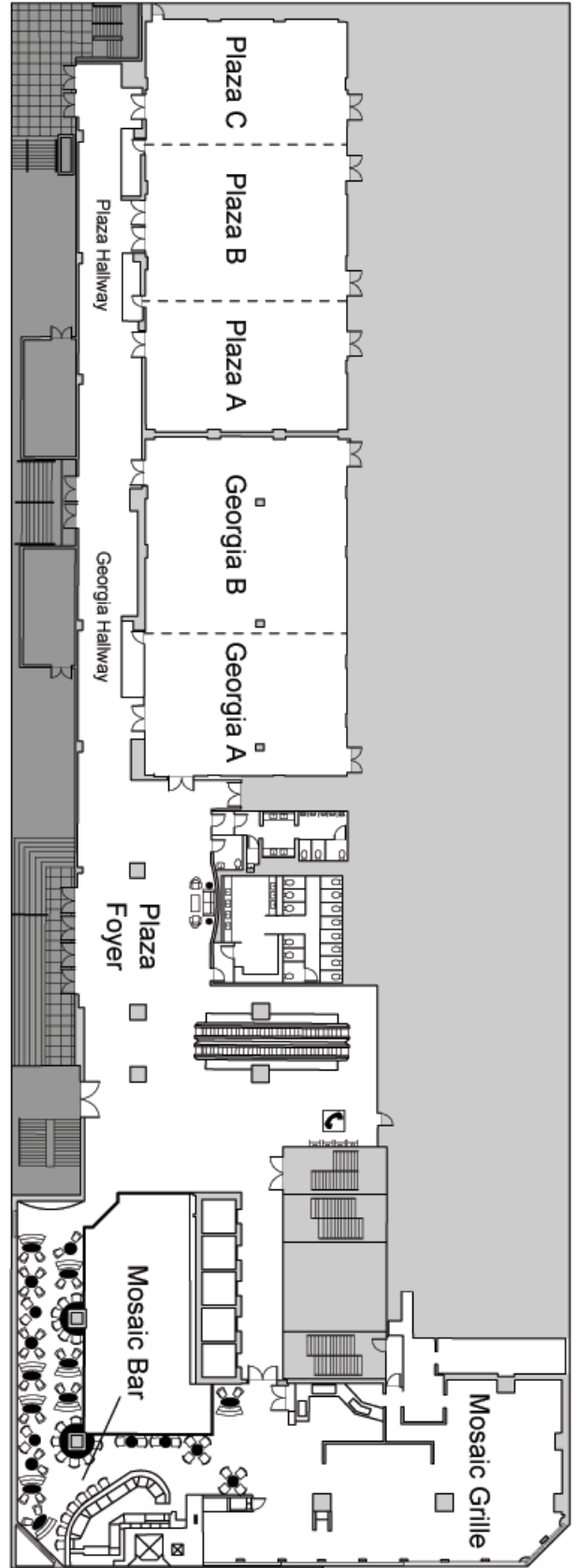
Perspectives Level (34th Floor)



Convention Level, Third Floor



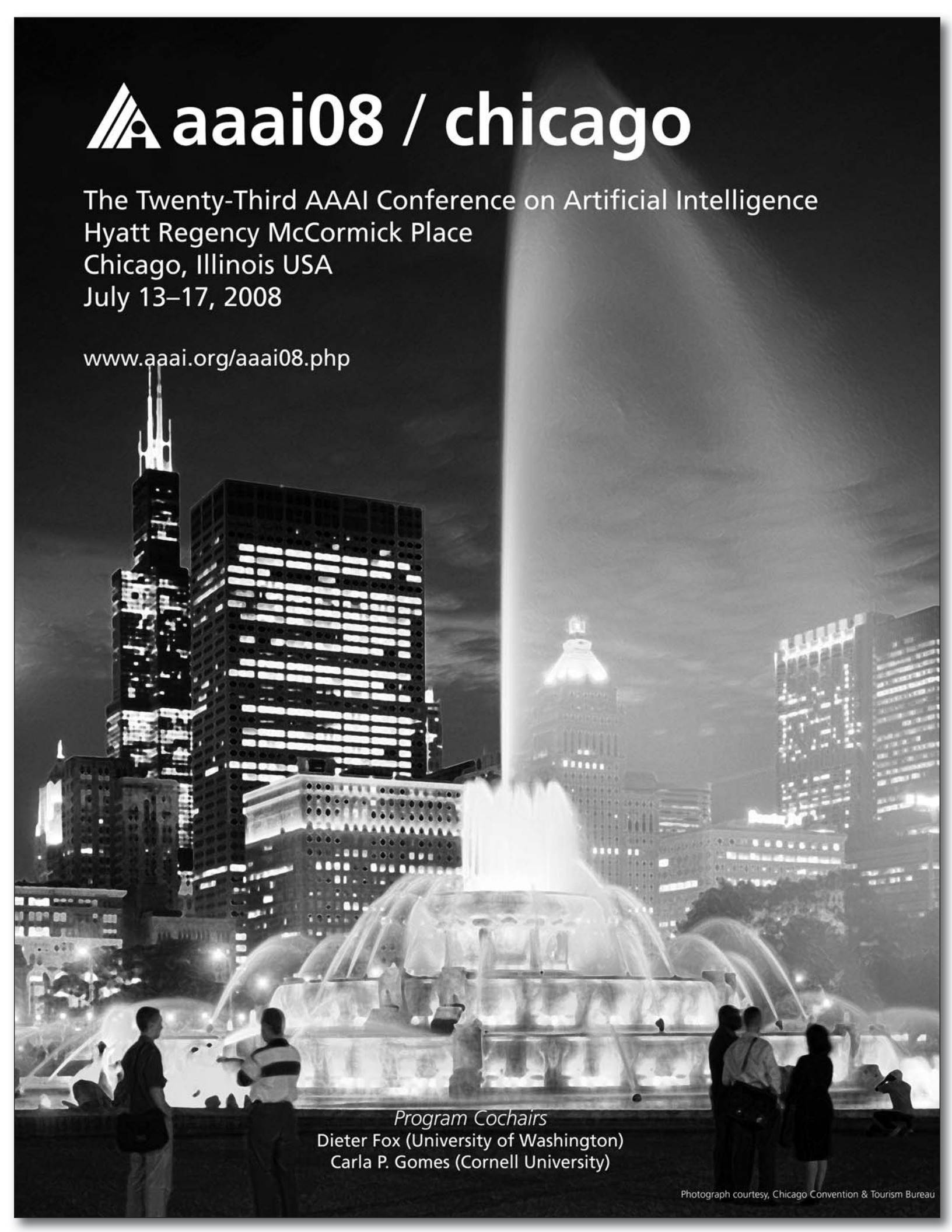
Plaza Level, Second Floor



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Program Cochairs
Dieter Fox (University of Washington)
Carla P. Gomes (Cornell University)