Computers & Thought

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EDITORS

AAAI News

Fall News from the
American Association for Artificial Intelligence

IJCAI-01: New Horizons

The Seventeenth International Joint Conference on Artificial Intelligence (IJCAI-01) was held in Seattle, Washington, from 6 to 10 August 2001. It was a stimulating blend of invited speakers, special events, 29 workshops, 20 tutorials, 3 robot competitions, 4 days of technical paper presentations, innovative applications, awards, and more. For the 1,509 attendees of the technical conference, and the additional 1,171 who came to see the exhibits, it was a time for catching up with old colleagues and meeting new.

Besides tackling the heady research and engineering agenda that is AI, attendees still know how to have fun. The opening reception was held at the Boeing Museum of Flight, and the conference banquet took place at beautiful Blake Island's Tillicum Village and included a hearty salmon feast.

Bill Gates Keynote Speaker

Signaling the growing contributions that AI is making in the Information Age, Bill Gates, cofounder and chief software architect of Microsoft, was the keynote speaker at the conference.

His talk, "AI in the Computing Experience: Challenges and Opportunities," was a venue for opening Microsoft's door a bit to show off some of the AI work under way in the company's research labs.

Speaking to a packed hall, Gates began his talk by noting the early optimism that existed in the AI field. The lofty goals "of AI were harder than originally thought," he added. He went on to say that AI has a central role in the efforts at Microsoft Research ($5.3 billion annual)—particularly in the areas of reasoning and decision making, machine learning, information retrieval and search, natural language, speech recognition, and vision. Some of the work from the company's research labs has already been rolled out with other products, such as the help wizards that accompany many products.

A handful of intelligent system prototypes were demonstrated by members of Gates's research staff, including a multimodal interface with distributed speech recognition that scheduled meetings from natural language in-

IJCAI Reception at the Boeing Museum of Flight. Photograph by Andrew Buchanan.

put, a dependency network that can analyze user patterns (for example, user TV-watching patterns from a Nielsen database, MSNBC web site traffic), a web document-retrieval system, and an e-mail notification manager that sorts e-mails from multiple sources and devices to give the user the correct information at the correct time and place. No product announcements were made in connection with these demonstrations, but it is safe to conclude that some of these functions will likely be bundled in future Microsoft product offerings.

Gates concluded by saying he was "optimistic" about AI because "advances are happening at a rapid pace."

Taking Stock of AI

Advances in a number of AI subfields are moving quickly indeed—but just how quickly?

David Stork of Stanford University and the Ricoh California Research Center gave a soul-searching, in-depth talk entitled "The HAL 9000 Computer and the Vision of *2001: A Space Odyssey*" that compared the vision of AI in Stanley Kubrick's film with the reality of AI's progress to date. Stork critiqued each of HAL's capabilities—from speech and chess playing to affective computing and common sense—and compared them with today's state-of-the-art research efforts. Stork spent some time describing the research that Kubrick and Clark did to make the movie and showed video clips of the research projects the movie's creators saw as they prepared the script. Although there was still quite a gap between the visions of Kubrick and Clark and today's AI capabilities, there has clearly been significant progress since the late 1960s. Stork ended by encouraging the AI community to a "renewed effort to fulfill the vision of *2001: A Space Odyssey*."

Robot Competitions

Although no HAL-like machines were on hand, the main exhibition hall in Seattle was filled with robot competitions, showcasing this year's crop of robots. The competitions included

■ RoboCup soccer competition for virtual, small, and medium robot teams

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2001 Innovative Applications of AI (IAAI-01) Winners

Deployed Application Winners

■ U.S. Marine Corps (U.S.)—Transportation logistics planning and scheduling system
■ Australian Defence Force (Australia)—Intelligent agent military simulation system
■ Wyoming Department of Agriculture (U.S.)—Advisory system for grasshopper infestation management
■ Jet Propulsion Laboratory (U.S.)—NASA science mission planning system for a radar satellite over Antarctica
■ IBM T.J. Watson Research Center (U.S.)—Web-based natural language sales assistant

Emerging Application Winners

■ Ontario Cancer Institute (Canada)—Integration of case-based reasoning with image analysis for high-throughput protein crystallization in the laboratory
■ University of Illinois at Urbana/Champaign (U.S.)—Context-sensitive text corrector that fixes spelling errors
■ Kyushu University (Japan)—Intelligent agent system with automated learning and adapting for personalized web searching
■ University of New Hampshire (U.S.)—Constraint-based system for diagnosis of interoperability problems in asynchronous transfer mode networks
■ University of Southern California Information Sciences Institute and Computer Science Department (U.S.)—"Electric elves" (agents) that support routine office tasks (for example, scheduling meetings) across a variety of office machines and communication devices
■ ENAC/LOG and CENA/LOG (France)—In-the-air flight-control system
■ Thales/LCR (France)—Multidomain information-extraction system

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■ Mobile Robot Competition and Exhibition for medium and large robots
■ Botball Tournament for robots built by middle and high school students. Forty-seven teams competed this year.

Innovative Applications

The Thirteenth Annual Conference on Innovative Applications of AI (IAAI-01) was once again a showcase for some recent stellar AI systems that are making a difference. A wide array of deployed and emerging applications were honored this year (see sidebar).

Standing back and examining progress through two decades of AAAI-sponsored conferences, it is clear that AI is a strong and diverse field of science and engineering. Not only is it already making a myriad of vital contributions in industry, government, and our everyday lives, but it holds great promise in the near future and beyond.

The IJCAI-01 proceedings are available from Morgan Kaufmann Publishers (www.mkp.com) and the IAAI-01 proceedings are available from AAAI Press (www.aaaipress.org). Audiocassette tapes of many of the talks are also available from Audio Archives International (audioarc@flash.net).

– Sara Hedberg

AAAI Fellows Nominations Solicited

The 2002 Fellows Selection Committee is currently accepting nominations for AAAI Fellow. The AAAI Fellows program is designed to recognize people who have made significant, sustained contributions to the field of artificial intelligence over at least a ten year period. All regular members in good standing are encouraged to consider nominating a candidate. Two references (at least one from a current AAAI Fellow) must accompany nominations. For further information about the Fellows Program or to receive nomination and reference forms, please contact AAAI at 650-328-3123; by fax at 650-321-4457; or by email at fellows@aaai.org. Nomination materials are also available on our web site. The deadline for nominations is February 15, 2002.

AAAI Awards Program

AAAI is pleased to announce the continuation of its Awards program in 2002. The AAAI Awards include the following:

The Classic Paper Award

This award honors the author(s) of paper(s) deemed most influential, chosen from a specific conference year. The 2002 award will be given to the most influential paper(s) from the Third National Conference on Artificial Intelligence (AAAI-83), Washington, DC. A listing of these papers is available at www.aaai.org/Press/Proceedings/AAAI/aaai-proceedings.html. AAAI members can access full text of the papers in the online Member's Library. All members of the artificial intelligence community are encouraged to submit nominations for this award. Candidacy is not limited to AAAI members or to people still active in artificial intelligence. Posthumous awards will be considered.

The Distinguished Service Award

This award recognizes one individual for extraordinary service to the AI community. Areas of service could include, but are not limited to: society service, service as an editor, conference organizer, representative of AI in other organizations (e.g. CRA, ACM, IEEE), or influential service as a government agency contract monitor or program director, resulting in positive effects on the field of AI. Nominees must be current members of AAAI. All regular members of AAAI are encouraged to place an individual's name in nomination.

The Effective Expository Writing Award

This award honors the author(s) of a high quality, effective piece of writing, accessible to the general public or to a broad AI audience (not just a subarea), written within the last two years. The contribution should be based on sound science, interesting ideas or systematic review, with non-trivial content, but the award is primarily for the exposition—the author need not be the one who has done the research. Nominated papers must be in English and must have been published in a publicly accessible place (e.g., periodical, hard copy or online journal, but not only as a web site or technical report). All regular members of AAAI are encouraged to nominate a candidate.

All awards will be presented at AAAI-02 in Edmonton, Alberta, Canada, and will include a certificate and $2,500. Complete nomination information, including nomination forms, is available at www.aaai.org/ Awards/awards.html. The deadline for nominations is March 15, 2002. For additional inquiries, please contact Carol Hamilton at hamilton@aaai.org.

AAAI-02

Mark your calendars now for AAAI-02! The Eighteenth National Conference on Artificial Intelligence (AAAI-02) will be held July 28 – August 1 at the Shaw Convention Center in Edmonton, Alberta, Canada. This is the first AAAI to be held outside of the continental United States, and we hope you will venture north to join us in Edmonton. Several events will be collocated with AAAI-02, including the following:

■ Fourteenth Conference on Innovative Applications of Artificial Intelligence (IAAI-02)
July 30 – August 1
www.aaai.org/Conferences/IAAI/2002/iaai02.html

■ CanDB
July 22

■ Third International Conference on Computers and Games
July 25–27

■ International Database Engineering and Applications Symposium (IDEAS'02)
July 17–19

■ Tenth Annual Conference on Intelligent Systems for Molecular Biology (ISMB 2002)
August 3–7

■ The Eighth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD-2002)
July 23–26

■ Symposium on Abstraction, Reformulation and Approximation (SARA 2002)
Kananaskis Mountain Lodge, Kananaskis, Alberta, Canada
August 2-4

■ Association for Uncertainty in Artificial Intelligence (UAI '02)
August 1-4

The national conference will have a very different structure in 2002. Instead of several parallel sessions, the conference will revolve around one plenary session of invited talks and selected technical paper presentations, as well as 2-3 poster sessions to showcase all the technical papers. For more information about this experiment, please see the letter from the program chairs (see sidebar on next page).

Several regular programs will return to AAAI in 2002, including the tutorial forum, workshops, exhibits, the SIGART/AAAI Doctoral Consortium, the Student Abstract and Poster Program, the Intelligent Systems Demonstrations, the AAAI Mobile Robot Competition and Exhibition, the Robot Building Lab, and representatives from the National Botball Competition. Please check the AAAI-02 web site (www.aaai.org/Conferences/National/2002/aaai02.html) for all the details and deadlines for these programs, as well as announcements about other new features.

A few important deadlines to note on your calendar:

■ *January 21, 2002:* AAAI-02 Electronic title page, abstract, and paper submission deadline

- *January 22, 2002:* AAAI-02 Hard-copy paper submission deadline
- *January 22, 2002:* IAAI-02 Submission Deadline
- *February 11, 2002:* SIGART/AAAI Doctoral Consortium application deadline
- *March 15, 2002:* AAAI-02 Notifications to authors
- *April 9, 2002:* Deadline for receipt of camera-ready copy

Information about the conference is also available by writing to ncai@aaai.org.

AAAI-02 Workshop Program

The following 19 workshops have been chosen for inclusion in the AAAI-02 Workshop Program. The workshops will be held Sunday and Monday, July 28-29 in Edmonton, Alberta, Canada. Please consult the AAAI-02 web site for more information regarding schedules and guidelines for participation. The chair of the AAAI-02 Workshop Program is Berthe Choueiry at Peter van Beek at the University of Nebraska-Lincoln (choueiry@cse.unl.edu).

- *Agent-Based B2B Electronic Commerce Technologies.* Brian Blake (blakeb@cs.georgetown.edu, bblake@mitre.org)

- *Agent-Based Systems for Information Retrieval.* R. Scott Cost (cost@csee.umbc.edu), Charles Nicholas (nicholas@csee.umbc.edu), and Ian Soboroff (isoboroff@rogue.ncsl.nist.gov)

- *Artificial Intelligence for Intelligent Business.* Daniel E. O'Leary (oleary@usc.edu), Benjamin Grosof (bgrosof@MIT.edu), and Alun Preece (apreece@csd.abdn.ac.uk)

- *Automation as Caregiver: The Role of Intelligent Technology in Elder Care.* Karen Haigh (khaigh@htc.honeywell.com)

- *Autonomy, Delegation, and Control: From Inter-agent to Groups.* Henry Hexmoor (hexmoor@mail.uark.edu) and Rino Falcone (falcone@www.ip.rm.cnr.it)

- *Coalition Formation in Dynamic Multiagent Environments.* Leen-Kiat Soh (lksoh@cse.unl.edu) and Charlie Ortiz (ortiz@ai.sri.com)

- *Cognitive Robotics (CogRob2002).* Chitta Baral (chitta@asu.edu) and Sheila McIlraith (sam@ksl.stanford.edu)

- *Game Theoretic and Decision Theoretic Agents.* Piotr Gmytrasiewicz (piotr@cs.uic.edu) and Simon Parsons (S.D.Parsons@elec.qmw.ac.uk)

- *Intelligent Integration of Information and Services on the Web.* Dean Allemang (dallemang@acm.org), Eleni Stroulia (stroulia@cs.ualberta.ca), and John Mylopoulos (jm@cs.toronto.edu)

- *Intelligent Situation-Aware Media and Presentations (ISAMP).* Rainer Malaka (malaka@eml.org) and Antonio Krüger (krueger@cs.uni-sb.de)

- *Meaning Negotiation.* Paolo Bouquet (bouquet@cs.unitn.it)

- *Multi-Agent Modeling and Simulation of Economic Systems (MAES).* Koichi Kurumatani (kurumatani@w-econ.org), Shu-Heng Chen (chchen@nccu.edu.tw), and Azuma Ohuchi (ohuchi@complex.eng.hokudai.ac.jp)

- *Ontologies for the Semantic Web.* Adam Pease (apease@ks.teknowledge.com), Richard Fikes (fikes@ksl.stanford.edu), and Jim Hendler (hendler@cs.umd.edu)

- *Planning with and for Multiagent Systems.* Michael Brenner (brenner@informatik.uni-freiburg.de) and Subbarao Kambhampati (rao@asu.edu)

- *Preferences in AI and CP: Symbolic Approaches.* Ulrich Junker (junker@ilog.fr)

- *Probabilistic Approaches in Search.* Carla Gomes (gomes@cs.cornell.edu) and Toby Walsh (tw@cs.york.ac.uk)

- *Real-Time Decision Support and Diagnosis Systems.* Haipeng Guo (hpguo@cis.ksu.edu), Eric Horvitz (horvitz@microsoft.com), William H. Hsu (bhsu@cis.ksu.edu), and Eugene Santos Jr. (eugene@cse.uconn.edu)

- *Semantic Web Meets Language Resources.* Nancy Ide (ide@cs.vassar.edu) and Chris Welty (welty@cs.vassar.edu)

- *Spatial and Temporal Reasoning.* Hans W. Guesgen (hans@cs.auckland.ac.nz), Frank D. Anger (fanger@nsf.gov), and Gerard Ligozat (ligozat@limsi.fr)

Dear AAAI Member,

We would like to draw your attention to the Call for Papers for AAAI-2002, available on the web at www.aaai.org/Conferences/National/2002/aaai02.html. In the hope of making the meeting as exciting and stimulating as possible, we will be experimenting this year with a new format. As the national conference for all AI, AAAI-2002 should play a centralizing and unifying role that complements more specialized meetings. We would like the papers submitted and presented to be meaningful to and accessible to the whole AI community. To this end, in AAAI-2002 we will eschew multiple parallel sessions in favor of a single plenary track. All accepted papers will be presented as posters in two high-profile evening sessions, and a subset of these will also be presented orally in a plenary track during the day. All papers will appear identically in the proceedings, and all will be subject to the same rigorous review process. Invited talks will also be part of the plenary track. To fit in as many orally presented papers as possible, we will extend the AAAI-2002 technical program to a full three days.

As a potential author, we hope this new format will encourage you to submit your best work to AAAI-2002, and to describe it in a way that makes it broadly accessible. The new format will give your work the widest possible exposure to the AI community. In particular, other meetings in other fields have shown that the kind of poster sessions we are planning—with a prominent dedicated time slot and food being served—can be a very effective and highly respected means of presentation. Based on feedback from attendees, AAAI will decide whether to continue with this format, modify it, or return to the old.

Most of all, the new format is intended to make the conference more rewarding for attendees. Please join us in beautiful Edmonton next summer and participate in this experiment in AI.

Rich Sutton, Rina Dechter, and Michael Kearns
Program Cochairs

IJCAI Keynote Speaker Bill Gates. Photograph by Andrew Buchanan.

AAAI-02 Student Abstract and Poster Program

AAAI-02 invites submissions to the student abstract and poster program. The goal of this program is to provide a forum in which students can present and discuss their work during its early stages, meet some of their peers who have related interests, and introduce themselves to more senior members of the field. The program is open to all pre-Ph.D students. Nonstudent advisors or collaborators should be acknowledged appropriately, as coauthors or otherwise. However, students are requested to honor the spirit of the program by submitting only work for which they are primary investigators. Accepted abstracts will be allocated two (2) pages in the conference proceedings, and will be allocated presentation time and space in the student poster display area at the conference.

Submissions are due January 25, 2002. For more information, please see the Call for Participation at www.aaai.org/Conferences/National/2002/aaai02.html. Student Abstract and Poster Program Cochairs are Mark Craven (craven@biostat.wisc.edu) and Sven Koenig (skoenig@cc.gatech.edu).

AAAI/ SIGART Doctoral Consortium

AAAI and ACM/SIGART invite students to apply for the Seventh AAAI/SIGART Doctoral Consortium. The Doctoral Consortium (DC) provides an opportunity for a group of Ph.D. students to discuss and explore their research interests and career objectives with a panel of established researchers in Artificial Intelligence.

The consortium has the following objectives: (1) to provide a setting for mutual feedback on participants' current research and guidance on future research directions; (2) to develop a supportive community of scholars and a spirit of collaborative research; (3) to support a new generation of researchers with information and advice on academic, research, industrial, and non-traditional career paths; and (4) to contribute to the conference goals through interaction with other researchers and participation in conference events.

The Doctoral Consortium will be held as a workshop on July 28-29, 2002, immediately before the start of the main conference. Participants will also present their work at the AAAI-02

student poster program. Application packages are due at the AAAI office by February 11, 2002. The 2002 Doctoral Consortium Chair is Marie desJardins (mariedj@cs.umbc.edu).

Student Scholar and Volunteer Program

AAAI is pleased to announce the continuation of its Student Scholar and Volunteer Programs. The Student Scholar Program provides partial travel support and a complimentary technical program registration for students who are full-time undergraduate or graduate students at colleges and universities; are members of AAAI; submit papers to the technical program or letters of recommendation from their faculty adviser; and submit scholarship applications to AAAI by April 15, 2002. In addition, repeat scholarship applicants must have fulfilled the volunteer and reporting requirements for previous awards.

In the event that scholarship applications exceed available funds, preference will be given to students who have an accepted technical paper, and then to students who are actively participating in the conference in some way. However, all eligible students are encouraged to apply.

After the conference, an expense report will be required to account for the funds awarded. For further information about the Scholarship Program, or to obtain an application, please contact AAAI at scholarships@aaai.org, or 445 Burgess Drive, Menlo Park, CA 94025. Telephone: (650) 328-3123.

All student scholarship recipients will be required to participate in the Student Volunteer Program to support AAAI organizers in Edmonton, Alberta, Canada. The Volunteer Program is an essential part of the conference and student participation is a valuable contribution. Students not requiring travel assistance should only apply for the Volunteer Program, which provides complimentary registration to full-time students, including conference proceedings, in exchange for assisting AAAI-02 organizers in Edmonton. This program does not provide any scholarship funds, and is designed for local students or students who

have other sources for travel funds. AAAI membership is required for eligibility. For further information regarding the Student Volunteer Program, please contact AAAI at volunteer @aaai.org. The deadline for volunteer applications is May 31, 2002.

2002 Spring Symposium Series

The 2002 Spring Symposium Series will be held March 25-27, 2002 at Stanford University and will feature nine symposia on the following subjects:

■ Acquiring (and Using) Linguistic (and World) Knowledge for Information Access
■ Artificial Intelligence and Interactive Entertainment
■ Collaborative Learning Agents
■ Information Refinement and Revision for Decision Making: Modeling for Diagnostics, Prognostics, and Prediction
■ Intelligent Distributed and Embedded Systems
■ Logic-Based Program Synthesis: State of the Art and Future Trends
■ Mining Answers from Texts and Knowledge Bases
■ Safe Learning Agents
■ Sketch Understanding

Registration materials have been mailed to all AAAI members and to invited participants. They are also available on the AAAI web site. Please note that the deadline for registration for invited participants is February 15 and the general registration deadline is March 1.

NEW!! *AI ALERT* Newsletter

Many of you have been receiving the *AI ALERT* electronic newsletter. This new service keeps you informed of what is being written on AI in the press within the past few weeks. If you would like to receive this newsletter, please write to us at membership@ aaai.org for instructions on how to subscribe to the AAAI members email list. We also welcome your feedback on the newsletter at aitopics@aaai.org. Be sure to visit the AI Topics web site at

www. aaai.org/AITopics/aitopics.html.

Member News

On India's Republic day celebrated January 26, the President of India conferred one of the highest national awards, Padma Bhushan, on Raj Reddy, Herbert A. Simon University Professor of Computer Science and Robotics in the School of Computer Science at Carnegie Mellon University, for his outstanding contributions in computer science and information technology. Reddy is a fellow and former president of AAAI. The award was presented this spring by the President of India in New Delhi.

The Centre for Intelligent Systems and their Applications (CISA) was created in August 2001 from two world-leading groups at the University of Edinburgh. These groups focus on basic and applied research in Artificial Intelligence (AI), with members engaged in undergraduate, postgraduate and continuing education. Formed within the Division of Informatics, CISA will unite the Artificial Intelligence Applications Institute (AIAI) and the Institute for Representation and Reasoning

(IRR). CISA is to be engaged in R&D involving knowledge representation and reasoning, planning, acting, cooperation, adaptive systems and intelligent agents. Through AIAI, the Centre will work with others in industry and elsewhere to develop and deploy applications of these technologies. For more information, please contact Austin Tate at a.tate@ed.ac.uk.

The Cork Constraint Computation Centre has been established at University College Cork, Ireland, with initial funding from a Science Foundation Ireland Principal Investigator award to Eugene Freuder of 5 million Irish pounds (approximately 5.8 million dollars). Freuder moved to University College Cork in fall, 2001 to become Science Foundation Ireland Research Professor.

AAAI Fellow Jon Doyle has been appointed SAS Institute Distinguished Professor of Computer Science in the College of Engineering at North Carolina State University, effective August 2001, through an endowment from SAS Institute Inc. and the University of North Carolina General Administration.

Alan Alda and Manuela Veloso watch a RoboCup Match.
Photography by Andrew Buchanan.