

AAAI News

Please Join Us for AAAI-97

The Fourteenth National Conference on Artificial Intelligence (AAAI-97) and the Ninth Conference on Innovative Applications of Artificial Intelligence (IAAI-97) will be held in Providence, Rhode Island, from 27-31 July 1997. The Third International Conference on Knowledge Discovery and Data Mining (KDD-97) will be held in Newport Beach, California from 14-17 August 1997 immediately following the American Statistical Association annual meeting in Anaheim. Information about these conferences is available by writing to AAAI at info@aaai.org or by visiting the AAAI web site at www.aaai.org/Conferences.

Registration materials for AAAI-97, IAAI-97, and KDD-97 are now available from the AAAI office. Copies of the AAAI-97 and the KDD-97 registration brochures are being mailed to all AAAI members. For further information, please call AAAI at 415/328-3123.

AAAI-97-IAAI-97 Features Expanded Program of AI Science and Technology

AI researchers and developers will gather 27-31 July 1997 in Providence, Rhode Island, for the Fourteenth National Conference on Artificial Intelligence (AAAI-97). For almost two decades, the conference has presented AI advances from around the world. This year's conference shows the vitality and the growing acceptance of AI science and technology to solve a broad range of problems.

In addition to more than 100 technical papers, plus invited talks, tutorials, workshops, the exhibition, and poster sessions, this year's conference will unveil the *Hall of Champions*. This event will pit the best computer programs against some of the best international human players in backgammon, bridge, checkers, chess, Scrabble, and other games. At-

tendees will also be able to try their hand against the machines. Behind the playing lies years of research in imbuing machines with the intelligence to plan strategies based on a changing environment. The implications of such problem-solving abilities lie far beyond the game board, and the programs' authors will be on hand to discuss the technical and social issues of these programs.

The Ninth Innovative Applications of Artificial Intelligence (IAAI-97) track will feature award-winning deployed intelligent systems with high payback as well as a new component—the *emerging applications of AI*. The emerging applications track has been added to bridge the gap between AI research and development. It will provide a forum for attendees to learn what is coming out of the labs in terms of tools, techniques, and methods that will enable new and more powerful applications.

This year, for example, it will include research systems that recognize hostile e-mail messages (FLAMES), integrate process planning and production scheduling for agile manufacturing, provide high-level command control for computer-aided design (CAD) systems, and find information on the Internet. These experimental systems come from companies such as Microsoft, Raytheon, NEC, and Fujitsu as well as leading universities such as Carnegie Mellon and world-class research centers such as SRI International.

Robot Competition Difficulty Increases as Robots Gain Sophistication

This is the sixth year for the Mobile Robot Competition, which gathers contestants from many of the leading robotics labs. Each year, the competition gets harder and the robots more capable. The robots must operate under their own on-board power, using their on-board intelligence. During the first couple of years of this compe-

tion, the robots' biggest challenges were maneuvering through an office-like environment, getting from one location to another. Then the tasks became more complex as they had to find an object, for example, and transport it from point A to point B.

Now the events are becoming more closely linked to real-world tasks. There are four events this year. A Fetch-It event will challenge the robots to find everyday objects, such as a remote control or a cup of coffee, in an only partially known environment—much as a robot might help a handicapped person around the house. Most of us dream of the day when a robot will handle simple household chores such as vacuuming. One event will test just that. Another event, at the conference's main reception, will test how well robots can pass hors d'oeuvres to the attendees. Attendees will judge this event!

Away from terra firma and the practical domestic tasks of the first three events, the final event is entitled "Find Life on Mars." Inspired by an upcoming National Aeronautics and Space Administration (NASA) mission to Mars, the robots will explore a large area of Mars, looking for signs of life and returning life forms to the lander for analysis before batteries go dead.

For additional information on the conference, contact the American Association for Artificial Intelligence (AAAI) at 415/328-3123 or visit AAAI's web site at www.aaai.org.

Third International Data Mining Conference (KDD-97)

The increased attendance and program diversity of the Third International Conference on Knowledge Discovery and Data Mining (KDD-97), held 14-17 August 1997 in Newport Beach, California, show the growing popularity of data mining. Data min-

ing encompasses a variety of computer approaches to garnering the nuggets of knowledge from the growing gigabytes and terabytes of data being stored in computers. The demand for such techniques is growing as the need for making use of vast repositories of data in an acceptable timeframe increases. Data mining is gaining attention in industry, government and scientific organizations worldwide. There are a growing number of deployed KDD applications in sectors such as finance, marketing insurance, health care, and astronomy.

In previous years, the KDD conference has been held concurrently with the National Conference on Artificial Intelligence. This year, in an effort to foster cross-fertilization between KDD and statistical techniques for data mining, KDD will be held immediately following the Joint Statistical Meetings (JSM'97) in Newport Beach, California. For further information and registration, contact the American Association for Artificial Intelligence (AAAI) at 415/328-3123 or visit AAAI's web site at www.aaai.org.

KDD Leaders Organize the Conference

KDD is the concern of many leading industrial and academic researchers around the world. This year's organizing committee includes KDD researchers and developers from leading companies such as General Motors, Microsoft, AT&T, GTE, Silicon Graphics, Boeing, and IBM as well as leading universities from the United States, Canada, Finland, Israel, Germany, The Netherlands, and Hong Kong. Together, they have pooled their knowledge to offer a program that spans the breadth and depth of advances in KDD.

The keynote speaker, Peter Huber, from Bayreuth University in Germany, will explore what the statistics and AI communities can learn from one another as they both tackle the problems of data mining. Until now, the two communities have worked independently and differently; so, Huber examines what each can learn from the other if they but looked over the fence.

The conference will include a rich

array of tutorials, workshops, papers, and product demonstrations of various approaches, algorithms, and applications of advanced KDD techniques.

AAAI-97 and KDD-97 Registration

Registration materials for the Fourteenth National Conference on Artificial Intelligence (AAAI-97) and the Ninth Innovative Applications of Artificial Intelligence Conference (IAAI-97), as well as the Third International Conference on Knowledge Discovery and Data Mining (KDD-97), are available from the American Association for Artificial Intelligence (AAAI) at ncai@aaai.org or on the AAAI web site (www.aaai.org). For further information, please call AAAI at 415/328-3123. The late registration deadline for AAAI-97-IAAI-97 is 25 June 1997. The late registration deadline for KDD-97 is 15 July 1997.

AAAI Annual Business Meeting

The annual business meeting of the American Association for Artificial Intelligence (AAAI) will be held at 11:45 am, Thursday, 31 July 1997, in the Westin Hotel, Providence, Rhode Island. Please remember to return your AAAI ballot to the AAAI office no later than 13 June 1997.

AAAI Councilor Nominations

Each year, the membership of the American Association for Artificial Intelligence (AAAI) elects four new councilors to serve three-year terms on the AAAI Executive Council. The Nominating Committee encourages all regular members in good standing to place an individual's name before it for consideration. The Nominating Committee, in turn, will nominate eight candidates for councilor. In addition to members' recommendations, the committee will actively recruit individuals to provide a balanced slate of candidates. AAAI members will vote in the spring of 1998.

To submit a candidate's names for consideration, please send the individual's name, address, telephone number, and e-mail address to Carol Hamilton, Executive Director, AAAI, 445 Burgess Drive, Menlo Park, CA 94025; by fax to 415/321-4457; or by e-mail to hamilton@aaai.org. Nominators should contact candidates prior to submitting their names to verify that they are willing to serve, should they be elected. The deadline for nominations is 1 November 1997. (Please note that the candidate name submission deadline has shifted from the spring to the fall to balance committee members' time commitments.)

1997 AAAI Fall Symposium Series

The 1997 American Association for Artificial Intelligence (AAAI) Fall Symposium Series will be held Saturday to Monday, 8-10 November, at the Massachusetts Institute of Technology in Cambridge, Massachusetts. The topics of the seven symposia will be:

- Communicative Action in Humans and Machines, *David Traum* (traum@cs.umd.edu)
- Context in Knowledge Representation and Natural Language, *Sasa Buvac* (buvac@cs.stanford.edu) and *Lucja Iwanska* (lucja@cs.wayne.edu)
- Frontiers in Soft Computing and Decision Systems, *Larry R. Medsker* (medsker@american.edu)
- ITS Authoring Tools, *Carol Luckhardt Redfield* (carol@meitx.com)
- Model-Directed Autonomous Systems, *Brian Williams* (williams@ptolemy.arc.nasa.gov) and *Pandurang Nayak* (nayak@ptolemy.arc.nasa.gov)
- Reasoning with Diagrammatic Representations II, *Michael Anderson* (anderson@morpheus.hartford.edu)
- Socially Intelligent Agents, *Kerstin Dautenhahn* (kerstin@cyber.reading.ac.uk) and *Judith Masthoff*

Symposia will be limited to 40 to 60 participants each. In addition to invited participants, a limited number of other interested parties will be able to register for each symposium on a first-come, first-served basis. Complete registration and hotel information will be available in July by request from fss@aaai.org or on the AAAI web site at www.aaai.org/Symposia/symposia.html. Invited partici-

pants must register by 15 September, and the final registration deadline is 26 September. The headquarters hotel for the AAAI Fall Symposium is the Hyatt Regency, Cambridge. The deadline for hotel reservations is 7 October 1997. The discounted single room rate of \$139.00/night will not be available after this date. Please call the Hyatt at 617/492-1234 for reservations, and be sure to identify yourself as an attendee at the AAAI Fall Symposium Series.

1998 Spring Symposium Series

The 1998 Spring Symposium Series will be held 23–25 March 1998 at Stanford University. The Call for Participation will be available in July on the American Association for Artificial Intelligence (AAAI) web site (www.aaai.org/Symposia/symposia.html) and will be mailed to all AAAI members.

AAAI-98

The American Association for Artificial Intelligence (AAAI) is pleased to announce that the Fifteenth National Conference on Artificial Intelligence (AAAI-98) and the Tenth Innovative Applications of Artificial Intelligence Program (IAAI-98) will be held in Madison, Wisconsin, from 26–30 July 1998. The AAAI-98 Call for Participation will be published this summer and will be available on the AAAI web site at www.aaai.org/Conferences/conferences.html. The program cochairs for AAAI-98 are Jack Mostow, Carnegie Mellon University (mostow@cs.cmu.edu), and Charles Rich, Mitsubishi Electric Research Laboratory (rich@merl.com). For further information, please contact AAAI by telephone at 415/328-3123 or by e-mail at ncai@aaai.org.

Please note that the Twentieth Annual Conference of the Cognitive Science Society will be held directly after AAAI-98 and the Third Annual Genetic Programming Conference (GP-98) will be held just prior to AAAI-98, both in Madison. Please watch for future updates on other collated conferences in 1998.

Congratulations to the 1997 AAAI Fellows!

Each year, a small number of fellows are recognized for their unusual distinction in the profession and for their sustained contributions to the field for a decade or more. An official dinner and ceremony will be held in their honor at the Fourteenth National Conference on Artificial Intelligence (AAAI-97) in Providence, Rhode Island.



Henry A. Kautz

AT&T Laboratories—Research For contributions to many areas of artificial intelligence, from plan recognition to knowledge representation to software agents.



Pat Langley

Daimler-Benz Research and Technology Center and Institute for the Study of Learning and Expertise For his cognitive models of numerous data-driven scientific discoveries and his founding role in the emergence of machine learning.



Robert M. MacGregor

USC/Information Sciences Institute For contributions to knowledge representation and development of the LOOM knowledge representation system.



David Allen McAllester

AT&T Laboratories—Research For contributions to the fields of knowledge representation, reasoning, search, and planning.



Stuart Russell

University of California at Berkeley For contributions to machine learning, bounded rationality, and planning under uncertainty.

Expertise in Context

Human and Machine

Edited by Paul J. Feltovich, Kenneth M. Ford, and Robert R. Hoffman



Cover illustration: "The Clown" by Max Papert. Reproduced with permission from Nahan Galleries, New York, New York.

Computerized "expert systems" are among the best known applications of artificial intelligence. But what is expertise? The nature of knowledge and expertise, and their relation to context, is the focus of active discussion—even controversy—among psychologists, philosophers, computer scientists, and other cognitive scientists. The questions reach to the very foundations of cognitive theory—with new perspectives contributed by the social sciences. These debates about the status and nature of expert knowledge are of interest to and informed by the artificial intelligence community—with new perspectives contributed by "constructivists" and "situationalists."

The 23 essays in this volume discuss the essential nature of expert knowledge, as well as such questions such as how "expertise" differs from mere "knowledge," the relation between the individual and group processes involved in knowledge in general and expertise in particular, the social and other contexts of expertise, how expertise can be assessed, and the relation between human and computer expertise.

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