



State of the Art

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Advances in Artificial Intelligence Research and Applications at IJCAI-03

Sara Hedberg

For more than three decades, leading AI scientists, practitioners, and students from around the world have gathered each summer to exchange their progress and new ideas in both the formal context of the conference and in more informal sessions during coffee breaks and after conference hours. Technology managers and analysts attend to learn of emerging AI trends and meet these AI innovators.

Over an intensive 7 days from 9 to 15 August, they will gather once again, this time in beautiful Acapulco, Mexico. Registrations are now being accepted for the conference. (See the end of this article for registration information.)

As part of the American Association for Artificial Intelligence's mission to advance the science and practice of AI, the organization continues to play a leading role in organizing and sponsoring these annual summer conferences.¹

A Snapshot of Conference Highlights

Because AI is an umbrella term for a

■ AAAI's press liaison reports on highlights of the IJCAI-03 conference, which will be held 9-15 August 2003 in Acapulco, Mexico.

broad range of subfields and techniques, the conference is always brimming with diverse content. This year's keynote speaker is the highly accomplished Takeo Kanade of Carnegie Mellon University. In his talk, "Computer Vision: AI or Non-AI Problem," Kanade will examine the historical perspective on computer vision research and present a case for renewing the tie between computer vision and AI research.

Also among this year's invited speakers is Monika Henzinger, Google, Inc.'s research director. As part of a special track on AI and the web, Henzinger will discuss the future of search engines on the internet, describing work under way to achieve better content understanding and more relevant results.

Other invited talks include "Deploying Information Agents on the Web" by Craig Knoblock, the University of Southern California; "Web

Intelligence (WI): A New Paradigm for Developing the Wisdom Web and Social Network Intelligence" by Jiming Liu, Hong Kong Baptist University and Web Intelligence Consortium; "Intelligent Systems in Travel and Tourism" by Hannes Werthner, eCommerce and Tourism Research Lab (eCTRL) ITC-irst and University of Trento, Italy; "Optimality of Collective Choice in Social Insects and Social Robots" by Jean-Louis Deneubourg, University Libre du Bruxelles, Belgium; "Data Integration: Successes and Challenges" by Alon Halevy, University of Washington; "Constraint Satisfaction, Databases, and Logic" by Phokion G. Kolaitis, University of California at Santa Cruz; "Self-Reconfiguring Robots: Challenges and Successes" by Daniela Rus, Dartmouth University; "Automated Verification = Graphs, Automata, and Logic" by Moshe Vardi, Rice University; "New Trends in Automated Reasoning" by Andrei Voronkov, Manchester University, United Kingdom; "User Interfaces: An AI Challenge" by Daniel S. Weld, University of Washington; and "Quantum Information: Fundamentals and Applications" by Anton Zeilinger, Vienna University, Austria.

These talks are just the start of the outstanding content slated for this year's conference. One hundred eighty-nine technical papers and 93 poster presentations, 8 workshops, and 22 tutorials on a wide array of emerging efforts in AI will also be presented, along with an exhibition of commercial vendors, publishers, nonprofit organizations, and university research labs.

Innovative Applications Conference

In addition to the strong technical track of the conference, the Fifteenth Innovative Applications of AI conference (IAAI-03) will be collocated with IJCAI. Through the years, we have seen a growing number of high-impact AI-based applications embedded in a broad range of computer systems, machinery, and electronic devices around the globe and in space. However, where is the newest, most



Smart Machines in Education

Edited by Kenneth D. Forbus and Paul J. Feltovich

This book looks at some of the results of this synergy among AI, cognitive science, and education. Examples include virtual students whose misconceptions force students to reflect on their own knowledge, intelligent tutoring systems, and speech recognition technology that helps students learn to read. Some of the systems described are already used in classrooms and have been evaluated; a few are still laboratory efforts. The book also addresses cultural and political issues involved in the deployment of new educational technologies.

500 pp, index. ISBN 0-0-262-56141-7 To order call 800-405-1619. (<http://mitpress.mit.edu>)



The IJCAI-03 Conference will be Held in Acapulco, Mexico.

Known as the "Pearl of the Pacific," Acapulco is one of the most visited tourist destinations in Mexico

advanced AI showing up? The prestigious IAAI awards spotlight stellar new AI applications that exhibit true advances in the field.

As in past years, the winners point the way to the future of AI technology adoption, indicating where we will likely see broad new use of AI in the coming years. A few examples of this year's 19 applications are the following:

First, a NASDAQ stock market monitor that identifies potential insider trading and fraud against investors.

second, a prototype vehicle diagnostic system with high accuracy and lower production costs being tested on a Mercedes-Benz E320 Sedan.

Finally, an application that automates understanding and navigation of multimedia broadcast news to provide intelligent information segmentation, extraction, search, summarization, visualization, and personalization of broadcast news.

Robot Competition and Exhibition

Always a major highlight of the annual AI conference, progress in the most advanced autonomous mobile robot research is demonstrated at the Mobile Robot Competition and Exhibition. This year's competition events include robots navigating the conference center to register for the conference, rescue robots facing terrain similar to what they faced at Ground Zero at the World Trade Center after September 11, and a more unstructured human-robot interaction task. Numerous talks and demonstrations are slated on other advances in robots such as self-reconfiguring robots and a robot photographer.

Other collocated events include the Intelligent Systems Demonstration Program and the Nineteenth Conference on Uncertainty in Artificial Intelligence.

Registration Information

For information and registration contact the American Association for Artificial Intelligence: www.aaai.org, 650-328-3123, or ijcai@aaai.org. Full conference details are available at www.ijcai-03.org.

IJCAI-03 is sponsored by the International Joint Conferences on Artificial Intelligence; the American Association for Artificial Intelligence; and the Mexican Society for Artificial Intelligence, in cooperation with the AI communities from Argentina, Brazil, Chile, and Venezuela.

Note

1. The rules for whether AAAI sponsors a national or international conference are as follows: If the year ends in an odd number, then there is an IJCAI conference. If the IJCAI conference is held in North America, AAAI cosponsors it and does not hold its own national conference that year. If the year ends in an even number, then there is a AAAI national conference.