IJCAI-03

Proceedings of the Eighteenth International
Joint Conference on Artificial Intelligence

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August 9–15, 2003

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These proceedings are dedicated to the memory of Raymond Reiter (1939–2002),
a distinguished scholar and pioneer, whose contributions have left an indelible mark on our field.
His legacy to us is a very rich collection of ideas and results, with names like
Closed-World Assumptions, Default Logic, Consistency-Based Diagnosis,
Successor State Axioms, and Cognitive Robotics.
Raymond Reiter served as IJCAI Program Chair in 1991 and
received the IJCAI Research Excellence Award in 1993.
We remember him as a brilliant scientist, a wonderful colleague, and a friend.

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FOREWORD

These proceedings contain the papers and poster papers accepted for presentation at the Eighteenth International Joint Conference on Artificial Intelligence (IJCAI-03) to be held in Acapulco, Mexico, August 9–15, 2003. This year, an increased interest in the field of artificial intelligence is witnessed by the very high number of submitted papers: 913 papers were submitted for review and each paper was reviewed by at least three reviewers and discussed by members of the program committee. The 50 members of the program committee recruited 1,007 reviewers, whose considerable effort is much appreciated. This year 189 papers were accepted, for an overall acceptance rate of 20.7 percent.

As usual, reviewers and program committee members were asked to recommend papers for distinction, and then a subcommittee of the program committee decided which of them should be highlighted at the conference. This year, the two papers—"Approximating Game-Theoretic Optimal Strategies for Full-scale Poker" by Darse Billings, Neil Burch, Aaron Davidson, Robert Holte, Jonathan Schaeffer, Terence Schauenberg, Duane Szafron and "Thin Junction Tree Filters for Simultaneous Localization and Mapping" by Mark Paskin—were chosen as the best papers and share the distinguished paper award. Moreover, the authors of a set of at most 20 selected outstanding papers will be invited to submit full versions of their papers to the *Artificial Intelligence* journal.

In addition to the full paper sessions, IJCAI-03 hosts a poster track. The aims of this initiative are to promote new research ideas and to widen participation at the conference. The poster committee reviewed a large number of submissions and identified those that represented the most promising new research directions, met the high technical standards expected at IJCAI, but were not yet fully evaluated or developed. Submissions came from two directions. First, 139 posters were submitted directly to the poster track and were reviewed either by the poster committee or by one of the 48 external reviewers. Of these 139 submissions, 30 were accepted into the poster track, giving an acceptance rate of 21.6 percent. Second, the program committee recommended that 322 of the full paper submissions be considered as posters. Of these, 63 were accepted by the poster committee into the poster track, giving an acceptance rate of 19.5 percent.

The high quality of this year's IJCAI is the joint effort of many people. First of all, the authors, the program committee, and the poster committee deserve great credit for their effort and dedication to make IJCAI the premier international forum for AI research. Secondly, the program committee executive administrator Vesna Sabljakovic, the program committee assistant Bibiane Angerer, the program committee technical administrator and advisor Jochen Renz as well as the staff at AAAI, in particular Carol Hamilton, Rick Skalsky, and Keri Harvey, merit special thanks for the professional support and the effort throughout the entire paper handling process. Thirdly, Professional Book Center did as usual a splendid job in turning the set of individual contributions into the present volume.

The Conference Chair Tony Cohn, the Local Arrangements Chairs Francisco J. Cantú and Juan M. Rodríguez, the IJCAI-01 Program Committee Chair Bernhard Nebel, the IJCAI trustees and the members of the advisory board provided useful advice for selecting the program committee and the invited speakers, and at various other critical stages. Peter Stone and Mary-Anne Williams did an excellent job putting together an attractive tutorial program and workshop program, respectively. This year, the new conference software ConfMaster, specifically designed by Thomas Preuss for IJCAI, was used as an electronic support of the many complex tasks of the Chair and the program committee. The program worked very well and was much appreciated by the committee. The poster committee used Richard Gerber's START package and was equally satisfied.

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Mark Paskin, University of California, Berkeley (USA): *Thin Junction Tree Filters for Simultaneous Localization and Mapping*

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Computer Vision: AI or Non-AI Problem

AI and the Web—Special Track
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Challenges in Web Search Engines

Craig Knoblock, University of Southern California, USA
Deploying Information Agents on the Web

Jiming Liu, Hong Kong Baptist University and Web Intelligence Consortium
Web Intelligence (WI): What Makes Wisdom Web*?*

Hannes Werthner, eCommerce and Tourism Research Lab (eCTRL) ITC-irst and University of Trento, Italy
Intelligent Systems in Travel and Tourism

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Optimality of Collective Choice in Social Insects and Social Robots

Alon Halevy, University of Washington, USA
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Constraint Satisfaction, Databases, and Logic

Daniela Rus, Dartmouth University, USA
Self-reconfiguring Robots: Successes and Challenges

Moshe Vardi, Rice University, USA
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