

Preface

The International Conference on Artificial Intelligence Planning Systems (AIPS) continues as the premier international conference for showcasing new results in planning research. AIPS brings together AI researchers in all aspects of problems in planning, scheduling, planning and learning, and plan execution, for dealing with complex problems. Papers in this proceedings range from new theoretical frameworks and algorithms for planning, to practical implemented applications in a variety of domains.

Recent years have seen a large growth in the diversity of the field, as new techniques are brought to bear on increasingly complex problems. Many planning researchers are explicitly dealing with the problems of uncertainty and plan cost, as evidenced by the number of papers on decision-theoretic planning, Markov models, and information gathering. New search and representation techniques are being investigated, such as the use of satisfiability, formal logics, and model-checking techniques for plan generation. System issues remain important, whether it involves integrating planning and learning, integrating planning and execution, or dealing with plan visualization and mixed-initiative planning. And, although AI planning research is branching out, it remains firmly grounded in the classical algorithms and representations that have been, and continue to be, the subject of intense research.

In all, we received 72 submissions. Each paper was read by three reviewers, and the Program Chairs selected 27 papers (38%) for publication. Approximately one-third of the accepted papers are from authors outside the United States.

To encourage diversity in the planning field, we initiated a workshop series for AIPS '98. The workshops were held June 7, 1998, the day before the start of the technical conference. A call for workshop proposals yielded a number of good topic areas. Steve Chien, the workshops chair, and we selected four of these: Planning as Combinatorial Search, Integrating Planning, Scheduling and Execution in Dynamic and Uncertain Environments, Knowledge Engineering and Acquisition for Planning, and Interactive and Collaborative Planning. The subsequent call for participation yielded very good results -- over 100 people responded. The workshop notes, which include position papers, abstracts, and some full papers, have been printed separately from these proceedings.

As a sign of the maturity in the field, we held the first international planning competition at AIPS '98, with the goal of

fostering foster development of state-of-the-art planning systems and to encourage the comparison of competing approaches to planning. The competition was chaired by Drew McDermott, and consisted of three tracks. Two tracks focused on general approaches to operator-based planning for different operator languages, and the focused on planners for solving problems in a transportation planning domain. Approximately 10 teams expressed interest in participating in the competition, which was held on June 9, 1998.

In addition to these events and paper presentations, there were three invited presentations by Herbert Simon, speaking on human problem solving and AI planning, Michael Georgeff, speaking on dealing with uncertainty and limited resources, and Craig Boutilier, speaking on solving stochastic sequential decision problems.

Many people worked very hard to make this conference possible. The Program Committee and additional reviewers provided high quality and thorough reviews. Steve Chien and the various workshop organizers (Richard Benjamins, Ralph Bergmann, Avrim Blum, Daniel Borrajo, George Ferguson, James Hendler, Subbarao Kambhampati, Henry Kautz, Craig Knoblock, Alexander Kott, Hector Munoz-Avila, David Musliner, Karen Myers, Leliane Nunes de Barros, Martha Pollack, Bart Selman, Yuval Shahar, Stephen Smith, Austin Tate, Andre Valente, Manuela Veloso, and Frank Weberskirch) did a great job in publicizing, organizing, and running the workshops. Drew McDermott and the planning competition committee (Malik Ghallab, Adele Howe, Subbarao Kambhampati, Craig Knoblock, Ashwin Ram, Manuela Veloso, Dan Weld, and David Wilkins) spent many hours developing rules, languages, and problem domains for the competition. We would particularly like to thank Jean Harpley, who oversaw much of the logistics for the conference, and who made everything run so smoothly. Lastly, we would like to thank AAAI for their cooperation and DARPA for their financial support to underwrite the planning competition.

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