Preface

RoboCup 2000, the Fourth Robot World Cup Soccer Games and Conferences, was held from August 27th to September 3rd, 2000, at the Melbourne Exhibition Center in Melbourne, Australia. Like the previous international RoboCup events – RoboCup 97 in Nagoya, Japan; RoboCup 98 in Paris, France; and RoboCup 99 in Stockholm, Sweden – RoboCup 2000 included a technical workshop as well as several robotic soccer competitions. RoboCup 2000 introduced the first RoboCup Jr. competition for children, as well as demonstrations of humanoid robots and of the RoboCup-Rescue disaster rescue simulator.

This book documents RoboCup 2000. It consists of (i) an overview; (ii) championship papers by the winners of the competitions; (iii) the finalist papers for the RoboCup challenge awards; (iv) the papers and posters presented at the workshop; and (v) descriptions of the teams that competed.

The book begins with an overview article introducing the competitions and demonstrations and including the scores of all of the games in the four competition leagues: the simulation league, the small-size robot (F180) league, the middle-size robot (F2000) league, and the Sony legged robot league. The following section presents the championship papers from the winners of these leagues.

The RoboCup challenge awards are distinctions that are given annually to the RoboCup-related researchers with the greatest potential to advance their respective fields. In RoboCup 2000, the challenge award finalists were selected from among the workshop papers. The four selected finalist papers appear in the next section.

The annual RoboCup workshop provides a forum for RoboCup researchers to exchange ideas that are generally applicable across the different RoboCup leagues and/or that are of general scientific interest. The RoboCup 2000 workshop received more than 60 submissions, from which 20 were selected for full presentation and an additional 20 were selected for poster presentation. These research papers form the main body of this book.

The book concludes with descriptions of most of the more than 80 teams that competed in RoboCup 2000. These team descriptions serve to catalog the full range of researchers and approaches that have been applied to the challenges put forth by RoboCup.

The next international RoboCup events will be held in Seattle, USA (2001) and in Fukuoka, Japan (2002). In addition to all existing RoboCup events, they are scheduled to introduce (i) RoboCup-Rescue disaster rescue competitions for the transfer of ideas and techniques developed in the soccer domain to a related task, and (ii) a humanoid robot competition as a step towards the long-term goal of creating a full team of humanoid robots that compete on a real soccer field. We look forward to continuing research innovations and exciting demonstrations of robotics and AI technology in these and other future RoboCup events.

March 2000   Peter Stone, Tucker Balch, and Gerhard Kraetzschmar

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