

Preface

RoboCup 2003, the 7th Robot World Cup Soccer and Rescue Competitions and Conferences, was held at PadovaFiere, in Padua, Italy during July 2–11, 2003. Following the trend established in recent years, the competition continued to grow, with 244 teams from 30 countries making up the 1244 participants. These teams were distributed across different leagues, where each league conducted one or more competitions. The league reports contained in this book summarize the scientific advancements made in each league as well as the results of the competition. Additionally, the supplemental CD coupled with this book contains the Team Description Papers for each team competing in RoboCup. The leagues, in alphabetical order, were:

- RoboCup Humanoid League
- RoboCup Junior League soccer, rescue, and dance competition
- RoboCup Legged League
- RoboCup Middle-Size League
- RoboCup Rescue Real Robot League
- RoboCup Rescue Simulation League
- RoboCup Simulation League soccer, coach, and visualization competition
- RoboCup Small-Size League

This book begins with an overview over the RoboCup competition together with a vision statement for the future development of RoboCup until 2050 and three invited papers by internationally leading researchers of the robotics field. The core part of the book contains papers accepted for oral or poster presentation at the International RoboCup Symposium 2003, which was held directly after the RoboCup competitions. The RoboCup team descriptions which, traditionally, have been part of the proceedings are now provided on a supplementary CD. This enabled us to allocate significantly more space for the fast-growing number of participating teams, thus rendering the team descriptions more informative and thus valuable.

Of the 125 symposium paper submissions received, an increase of 64% over RoboCup 2002, 39 papers were accepted for oral presentations and 35 papers were accepted for poster presentations. The International Program Committee, which contained both RoboCup researchers from around the world as well as researchers from outside the community, selected two papers for the jointly awarded RoboCup Engineering Challenge, and one paper for the RoboCup Scientific Challenge Award. The award winners were:

- Scientific Challenge Award awarded to Andrea Miene, Ubbo Visser and Otthein Herzog (University of Bremen, Germany) for *Recognition and Prediction of Motion Situations Based on a Qualitative Motion Description*.

- Engineering Challenge Award awarded to Daniel Cameron and Nick Barnes (University of Melbourne, Australia) for *Knowledge-Based Autonomous Dynamic Color Calibration*, and to Michael J. Quinlan, Craig L. Murch, Richard H. Middleton, and Stephan K. Chalup for *Traction Monitoring for Collision Detection with Legged Robot*.

For the keynote speakers, five internationally renowned researchers accepted our invitation to present special talks at the RoboCup Symposium. The speakers were:

- Manuela Veloso, Carnegie Mellon University, USA
- Masahiro Fujita, SONY ID Lab, Japan
- Ulrich Nehmzow, University of Essex, UK
- Paolo Dario, University of Pisa, Italy
- Maja Mataric, University of Southern California, USA

As a final note, the editors of this book are grateful to Enrico Pagello, PadovaFiere, and the RoboCup Federation for making the RoboCup Symposium and RoboCup 2003 as a whole, possible. The next international RoboCup event will be held in Lisbon, Portugal in 2004, followed by RoboCup 2005 in Osaka, Japan. All details regarding RoboCup 2004 can be found at <http://www.robocup2004.pt> or at the main RoboCup website <http://www.robocup.org>.

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