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Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems

7th International Conference, CPAIOR 2010
Bologna, Italy, June 14-18, 2010
Proceedings

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Preface

The 7th International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems (CPAIOR 2010) was held in Bologna, Italy, June 16-18, 2010.

The conference is intended primarily as a forum to focus on the integration and hybridization of the approaches of constraint programming (CP), artificial intelligence (AI), and operations research (OR) technologies for solving large-scale and complex real-life combinatorial optimization problems. CPAIOR is focused on both theoretical and practical, application-oriented contributions.

The interest of the research community in this conference is witnessed by the high number of high-quality submissions received this year, reaching 39 long and 33 short papers. From these submissions, we chose 18 long and 17 short papers to be published in full in the proceedings.

This volume includes extended abstracts of the invited talks given at CPAIOR. Namely, one by Matteo Fischetti (University of Padova) on cutting planes and their use within search methods; another by Carla Gomes (Cornell University) on the recently funded NSF “Expedition in Computing” grant on the topic of computational sustainability and on the potential application of hybrid optimization approaches to this area; a third by Peter Stuckey (University of Melbourne) on the integration of SATisfiability solvers within constraint programming and integer programming solvers.

Two days before CPAIOR, a Master Class was organized by John Hooker on “Experimental Study of Algorithms and Benchmarking”. The Master Class was composed of two parts: in the first, two leading researchers gave overview talks in the area. Catherine McGeoch (Amherst College) discussed statistical methods, and Carla Gomes (Cornell University) discussed the scientific use of experimentation. In the second part of the Master Class, software vendors described how they do benchmarking. The Master Class was intended for PhD students, researchers, and practitioners. We are very grateful to John, who brought this excellent program together. Finally, a rich program of one-day workshops was organized on June 15.

We warmly thank Zeynep Kiziltan for her work as Publicity Chair, Fabio Parisini for managing the conference website, and Enrico Malaguti for the management of the EasyChair System. We are very grateful to Meinolf Sellmann, who acted as Workshop Chair and put together an exciting program with five half-day workshops. Managing submissions and conference proceedings by means of the EasyChair System made our work a lot easier and we warmly thank EasyChair for this.

Many thanks to the members of the Program Committee, who reviewed all the submissions in detail and discussed conflicting papers deeply. We warmly thank the external reviewers as well.

Special thanks go to Marco Gavanelli and Andrea Roli, the Conference Chairs who took care of the many details concerning the organization, and to Vanessa Grotti (Planning Congressi), for her work on budgeting, planning and booking.

Finally, we would like to thank the sponsors who made it possible to organize this conference: the ARTIST Design, Network of Excellence, the Institute for Computational Sustainability (ICS), the Cork Constraint Computation Center, the Association for Constraint Programming (ACP), the Optimization for Sustainable Development (OSD) Chair, IBM and FICO.

A special mention should be made of FONDAZIONE DEL MONTE - 1473 for its generous support of the publication of these proceedings and of ALMA MATER STUDIORUM - Università di Bologna for the continuous help and support of the organization of CPAIOR 2010.

June 2010

Andrea Lodi
Michela Milano
Paolo Toth



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