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Thomas Stützle (Ed.)

Learning and Intelligent Optimization

Third International Conference, LION 3
Trento, Italy, January 14-18, 2009
Selected Papers

Springer

Volume Editor

Thomas Stützle
IRIDIA
CoDE
Université Libre de Bruxelles
Avenue F. Roosevelt 50
CP 194/6
1050 Brussels, Belgium
E-mail: stuetzle@ulb.ac.be

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Preface

LION 3, the Third International Conference on Learning and Intelligent OptimizatioN, was held during January 14–18 in Trento, Italy. The LION series of conferences provides a platform for researchers who are interested in the intersection of efficient optimization techniques and learning. It is aimed at exploring the boundaries and uncharted territories between machine learning, artificial intelligence, mathematical programming and algorithms for hard optimization problems.

The considerable interest in the topics covered by LION was reflected by the overwhelming number of 86 submissions, which almost doubled the 48 submissions received for LION's second edition in December 2007. As in the first two editions, the submissions to LION 3 could be in three formats: (a) original novel and unpublished work for publication in the post-conference proceedings, (b) extended abstracts of work-in-progress or a position statement, and (c) recently submitted or published journal articles for oral presentations. The 86 submissions received include 72, ten, and four articles for categories (a), (b), and (c), respectively.

The articles for the post-conference proceedings were carefully selected after a rigorous refereeing process. Finally, 16 papers were accepted for publication in this proceedings volume (one of these being an extended version of an extended abstract), which gives an acceptance rate of about 20%. In addition, three of the papers presented at the Machine Learning and Intelligent Optimization in Bioinformatics (MALIOB) 2009 workshop are included in the post-conference proceedings; the MALIOB 2009 workshop was organized by Andrea Passerini of the University of Trento, Italy, as a LION 3 satellite workshop.

Apart from the oral presentations at LION 3, a number of promising contributions, which were published in electronic online proceedings, were presented during two poster sessions. The conference program was further enriched by four tutorials by leading researchers. The topics covered were constraint programming (Jean-Charles Regin, ILOG, France), algorithms for tackling the SAT problem (Youssef Hamadi, Microsoft Research Cambridge, UK), metaheuristics with a focus on simple metaheuristic strategies (Olivier Martin, Université Paris-Sud, France), and probabilistic reasoning techniques for combinatorial problem solving (Lukas Kroc, Ashish Sabharwal, and Bart Selman, Cornell University, USA). The poster sessions and the additional tutorials helped to make LION 3 a very lively meeting.

The Technical Program Committee Chair would like to acknowledge gratefully the contributions of multiple persons, in particular, the authors for submitting their work to LION 3 and the Program Committee and additional referees for their dedicated work to ensure a high-quality conference program. This conference was very successful also because of the numerous contributions of a number of people involved in its organization. Special thanks goes to Roberto Battiti,

the Steering Committee and Local Organization Chair, who is also the main person behind the establishment of the LION conference series, to Bart Selman, the General Conference Chair, Andrea Passerini, for organizing the MALIOB workshop, Youssef Hamadi, the Tutorial Chair, for putting together an inspiring tutorial program, and Franco Mascia, the Web Chair, who was very helpful in all technical details arising before, during, and after the refereeing process. In addition, thanks also to Mauro Brunato, Elisa Cilia, Paolo Campigotto, Michela Dallachiesa, Cristina Di Risio, and Marco Cattani, members of the LION research group, for their help in the practical organization of the event.

Finally, we would like to thank the sponsors for their contribution to the conference: the Associazione Italiana per l'Intelligenza Artificiale, IEEE Computational Intelligence Society, and Microsoft Research for their technical co-sponsorship as well as the industrial sponsors, Eurotech Group S.P.A. and EnginSoft S.P.A.

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