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Chrysafis Vogiatzis · Jose L. Walteros (Eds.)

Learning and Intelligent Optimization

8th International Conference, Lion 8
Gainesville, FL, USA, February 16–21, 2014
Revised Selected Papers

Springer

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Preface

The Learning and Intelligent OptimizatioN (LION) conference has been an important meeting point for scientists working on the forefront of optimization and machine learning. The conference has always aimed to be the perfect meeting point for researchers to discuss advancements in algorithms, methods, and theories that are used in a vast spectrum of fields.

2014 marks the first year that the conference was organized in the United States of America. This signaled an important advancement of the world renowned conference to attract more scientists from North America. As its organizers, we were honored and proud to welcome many scientific articles that discussed a series of innovative approaches to well-known problems, novel ideas that can shape advancements in the years to come, and applications that benefit from this intersection of optimization and machine learning.

LION 2014 was the 8th conference of the series. It was held in Gainesville, Florida, USA, during February 16–21, 2014.

There were four plenary lectures:

- **Vijay Vazirani**, Georgia Institute of Technology – USA
  New (Practical) Complementary Pivot Algorithms for Market Equilibria
- **Baba Vemuri**, University of Florida – USA
  Dictionary Learning on Riemannian Manifolds and its Applications
- **Holger Hoos**, University of British Columbia – Canada
  Machine Learning & Optimisation: Promise and Power of Data-driven, Automated Algorithm Design
- **Roman Belavkin**, Middlesex University – UK
  Information-Geometric Optimization of Parameters in Randomized Algorithms

and six tutorial speakers:

- **Ding Zhu-Du**, University of Texas at Dallas – USA
  Nonlinear Combinatorial Optimization
- **Mauricio G.C. Resende**, AT&T Labs Research – USA
  GRASP: Advances and Applications
- **Nicolaos Sahinidis**, Carnegie Mellon University – USA
  ALAMO: Automated Learning of Algebraic Models for Optimization
- **My T. Thai**, University of Florida – USA
  Interdependent Networks Analysis
- **Mario Guaraccino**, CNR – Italy
  From Separating to Proximal-Plane Supervised Classifiers
- **Panos M. Pardalos**, University of Florida – USA
  Feature Selection Methods for High Dimensional Datasets

All manuscripts submitted to LION were independently reviewed by at least three members of the Program Committee in a blind review process. Overall, these proceedings consist of 33 research articles from all around the world, discussing a vast spectrum of ideas, technologies, algorithms, approaches, and applications in optimization and machine learning. The topics include but are not limited to algorithm configuration, multiobjective optimization, metaheuristics, graphs and networks, logistics and transportation, and biomedical applications. The successful organization of the conference would not have been possible without the attendants, so we would like to take this opportunity to thank them for coming to Gainesville. We also couldn't have organized the conference without the excellent work of the Local Organizing Committee, Chrysafis Vogiatzis and Jose L. Walteros, and the special session chairs, Bernd Bischl, Valery Kalyagin, Heike Trautmann, and Holger Hoos. We would also like to extend our appreciation to the keynote and tutorial speakers, who accepted our invitations, and to all the authors who worked hard on submitting their research work to LION 2014.

February 2014

Panos M. Pardalos
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