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Steven Schockaert · Pierre Senellart (Eds.)

Scalable Uncertainty Management

10th International Conference, SUM 2016
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Proceedings

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Preface

Research areas such as Artificial Intelligence and Databases increasingly rely on principled methods for representing and manipulating large amounts of uncertain information. To meet this challenge, researchers in these fields are drawing from a wide range of different methodologies and uncertainty models. While Bayesian methods remain the default choice in most disciplines, sometimes there is a need for more cautious approaches, relying for instance on imprecise probabilities, ordinal uncertainty representations, or even purely qualitative models.

The International Conference on Scalable Uncertainty Management (SUM) aims to provide a forum for researchers who are working on uncertainty management, in different communities and with different uncertainty models, to meet and exchange ideas. Previous SUM conferences have been held in Washington DC (2007), Naples (2008), Washington DC (2009), Toulouse (2010), Dayton (2011), Marburg (2012), Washington DC (2013), Oxford (2014), and Québec City (2015).

This volume contains contributions from the 10th SUM conference, which was held in Nice, France on September 21–23, 2016. The conference attracted 25 submissions of long papers and 5 submissions of short papers, of which respectively 18 and 5 were accepted for publication and presentation at the conference, based on three rigorous reviews by members of the Program Committee or external reviewers. In addition, we received 5 extended abstracts, which were accepted for presentation at the conference but are not included in this volume.

An important aim of the SUM conference is to build bridges between different communities. This aim is reflected in the choice of the three keynote speakers, who are all active in more than one community, using a diverse set of approaches to uncertainty management: Guy Van den Broeck, Jonathan Lawry, and Eyke Hüllermeier. To further embrace the aim of facilitating interdisciplinary collaboration and cross-fertilization of ideas, and building on the tradition of invited discussants at SUM, the conference featured 11 tutorials, covering a broad set of topics related to uncertainty management. A companion paper for 3 of these tutorials is present in this volume.

We would like to thank all authors and invited speakers for their valuable contributions, and the members of the Program Committee and external reviewers for their detailed and critical assessment of the submissions. We are also very grateful to Andrea Tettamanzi and his team for hosting the conference in Nice.

July 2016

Pierre Senellart
Steven Schockaert

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