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Modeling Decisions for Artificial Intelligence

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Preface

This volume contains papers presented at the 18th International Conference on Modeling Decisions for Artificial Intelligence (MDAI 2021), celebrated online at Umeå University, Sweden, September 27–30, 2021.

This conference followed MDAI 2004 (Barcelona), MDAI 2005 (Tsukuba), MDAI 2006 (Tarragona), MDAI 2007 (Kitakyushu), MDAI 2008 (Sabadell), MDAI 2009 (Awaji Island), MDAI 2010 (Perpinyà), MDAI 2011 (Changsha), MDAI 2012 (Girona), MDAI 2013 (Barcelona), MDAI 2014 (Tokyo), MDAI 2015 (Skövde), MDAI 2016 (Sant Julià de Lória), MDAI 2017 (Kitakyushu), MDAI 2018 (Mallorca), and MDAI 2019 (Milano).

The aim of MDAI is to provide a forum for researchers to discuss different facets of decision processes in a broad sense. This includes model building and all kinds of mathematical tools for data aggregation, information fusion, and decision-making; tools to help make decisions related to data science problems (including, for example, statistical and machine learning algorithms as well as data visualization tools); and algorithms for data privacy and transparency-aware methods so that data processing procedures and the decisions made from them are fair, transparent, and avoid unnecessary disclosure of sensitive information.

The MDAI conference included tracks on the topics of (a) data science, (b) machine learning, (c) data privacy, (d) aggregation functions, (e) human decision-making, (f) graphs and (social) networks, and (g) recommendation and search.

The organizers received 50 papers from 20 different countries, 24 of which are published in this volume. Each submission received at least three reviews from the Program Committee and a few external reviewers. We would like to express our gratitude to them for their work.

The conference was supported by the Dept. of Computing Sciences, Umeå University, the European Society for Fuzzy Logic and Technology (EUSFLAT), the Catalan Association for Artificial Intelligence (ACIA), the Japan Society for Fuzzy Theory and Intelligent Informatics (SOFT), and the UNESCO Chair in Data Privacy.

July 2021

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