# **Communications** in Computer and Information Science

1062

Commenced Publication in 2007
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Gabriele Anderst-Kotsis · A Min Tjoa · Ismail Khalil et al. (Eds.)

## Database and Expert Systems Applications

DEXA 2019 International Workshops BIOKDD, IWCFS, MLKgraphs and TIR Linz, Austria, August 26–29, 2019 Proceedings



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ISSN 1865-0929 ISSN 1865-0937 (electronic) Communications in Computer and Information Science ISBN 978-3-030-27683-6 ISBN 978-3-030-27684-3 (eBook) https://doi.org/10.1007/978-3-030-27684-3

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### **Preface**

The Database and Expert Systems Applications (DEXA) workshops are a platform for the exchange of ideas, experiences, and opinions among scientists and practitioners – those who are defining the requirements for future systems in the areas of database and artificial technologies.

This year DEXA featured four international workshops:

- BIOKDD 2019, the 10th International Workshop on Biological Knowledge Discovery from Data
- IWCFS 2019, the Third International Workshop on Cyber-Security and Functional Safety in Cyber-Physical Systems
- MLKgraphs2019, the First International Workshop on Machine Learning and Knowledge Graphs
- TIR 2019, the 16th International Workshop on Technologies for Information Retrieval

DEXA workshops papers included papers that focus mainly on very specialized topics on the applications of database and expert systems technology.

We would like to thank all workshop chairs and Program Committee members for their excellent work, namely, Mourad Elloumi, chair of the BIOKDD workshop, Atif Mashkoor, Johannes Sametinger, and Xabier Larrucea, co-chairs of the IWCFS workshop, Anna Fensel, Jorge Martinez-Gil, and Bernhard Moser, co-chairs of the MLKgraphs workshop, and Christin Seifert, Benno Stein, and Michael Granitzer, co-chairs of the TIR workshop.

DEXA 2019 was the 30th in the series of annual scientific platform on database and expert systems applications after Vienna, Berlin, Valencia, Prague, Athens, London, Zurich, Toulouse, Vienna, Florence, Greenwich, Munich, Aix en Provence, Prague, Zaragoza, Copenhagen, Krakow, Regensburg, Turin, Linz, Bilbao, Toulouse, Vienna, Prague, Munich, Valencia, Porto, Lyon, and Regensburg.

This year DEXA took place at the Johannes Kepler University of Linz, Austria. We would like to express our thanks to all institutions actively supporting this event, namely:

- Johannes Kepler University Linz (JKU)
- Software Competence Center Hagenberg (SCCH)
- International Organization for Information Integration and Web-Based Applications and Services (@WAS)

Finally, we hope that all the participants of the DEXA 2019 workshops enjoyed the program that we put together.

August 2019

Gabriele Anderst-Kotsis A Min Tjoa Ismail Khalil

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