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Information Search, Integration, and Personalization

13th International Workshop, ISIP 2019
Heraklion, Greece, May 9–10, 2019
Revised Selected Papers

Springer

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Preface

This book contains the selected research papers presented at ISIP 2019, the 13th International Workshop on Information Search, Integration and Personalization, during May 9–10, 2019, at FORTH Institute of Computer Science, Heraklion, Greece. Two keynote talks were given during the workshop:

– "Towards diversity-aware, fair and unbiased data management," by Professor Evaggelia Pitoura, University of Ioannina, Greece.
– "Visual analytics of multiple media and real world Big Data," by Professor Masashi Toyoda, University of Tokyo, Japan.

There were 24 presentations of scientific papers, of which 16 were submitted to the post-workshop peer review. The International Program Committee selected 11 papers to be included in the proceedings.

The themes of the presented and/or submitted papers reflected today's diversity of research topics as well as the rapid development of interdisciplinary research. With increasingly sophisticated research in science and technology, there is a growing need for interdisciplinary and international availability as well as distribution and exchange of the latest research results in organic forms, including not only research papers and multimedia documents, but also various tools developed for measurement, analysis, inference, design, planning, simulation, and production as well as the related large data sets. Similar needs are also growing for the interdisciplinary and international availability as well as distribution and exchange of ideas of works among artists, musicians, designers, architects, directors, and producers. These contents, including multimedia documents, application tools, and services are being accumulated on the Web, as well as in local and global databases, in a remarkable speed that we have never experienced with other kinds of publishing media. Large amounts of content are now already on the Web, waiting for their advanced personal and/or public reuse. We need new theories and technologies for the advanced information search, integration through interoperation, and personalization of Web content as well as database content.

The ISIP 2019 workshop was organized to offer a forum for presenting original work and stimulating discussions and exchanges of ideas around these themes, focusing on the following topics.

– Data Analytics and Visualization
– Data mining
– Linked/Open Data
– Languages and Query Answering
– Data Integration, Data Warehouses, and Data Lakes
– Gamification and Recommendation
– Machine Learning

The selected papers contained in this book are grouped into four major topics, namely Linked Data, Data Analytics, Data Integration, and Data Mining Applications; they span major current topics in Information Management research.

Historical Note

ISIP started as a series of Franco-Japanese workshops in 2003, and its first edition was placed under the auspices of the French embassy in Tokyo, which provided the financial support along with JSPS (Japanese Society for the Promotion of Science). Up until 2012, the workshops have alternated between Japan and France, and attracted increasing interest from both countries. Then, motivated by the success of the first editions of the workshop, participants from countries other than France or Japan volunteered to organize it in their home country. The following shows the history of past ISIP workshops:

- 2003: 1st ISIP in Sapporo (June 30 – July 2, Meme Media Lab, Hokkaido University, Japan)
- 2005: 2nd ISIP in Lyon (May 9–11, University Lyon 1, France)
- 2007: 3rd ISIP in Sapporo (June 27–30, Meme Media Laboratory, Hokkaido University, Japan)
- 2008: 4th ISIP in Paris (October 6–8, Tour Montparnasse, Paris, France)
- 2009: 5th ISIP in Sapporo (July 6–8, Meme Media Laboratory, Hokkaido University, Japan)
- 2010: 6th ISIP in Lyon (October 11–13, University Lyon 1, France)
- 2012: 7th ISIP in Sapporo (October 11–13, Meme Media Laboratory, Hokkaido University, Japan)
- 2013: 8th ISIP in Bangkok (September 16–18, Centara Grand & Bangkok Convention Centre CentralWorld Bangkok, Thailand).
- 2014: 9th ISIP in Kuala Lumpur (October 9–10, HELP University, Kuala Lumpur, Malaysia)
- 2015: 10th ISIP in Grand Forks (October 1–2, University of North Dakota, Grand Forks, North Dakota, USA)
- 2016: 11th ISIP in Lyon (November 3–4, University Lyon 1, France)
- 2018: 12th ISIP in Kyushu (May 14–15, Kyushu University, Fukuoka, Japan)

Originally, the workshops were intended for a Franco-Japanese audience, with the occasional invitation of researchers from other countries as keynote speakers. The proceedings of each workshop were published informally, as a technical report of the hosting institution. One exception was the 2005 workshop, selected papers of which were published by the *Journal of Intelligent Information Systems* in its special issue for ISIP 2005 (Vol. 31, Number 2, October 2008). The original goal of the ISIP workshop series was to create close synergies between a selected group of researchers from the two countries; and indeed, several collaborations, joint publications, joint student supervisions, and research projects originated from participants of the workshop.

After the first six workshops, the organizers concluded that the workshop series had reached a mature state with an increasing number of researchers participating every year. As a result, the organizers decided to open up the workshop to a larger audience by inviting speakers from over ten countries at ISIP 2012, ISIP 2013, ISIP 2014, as well as at ISIP 2015. The effort to attract an even larger international audience has led to organizing the workshop in countries other than France and Japan. This will continue in the years to come. Especially in these past four years, an extensive effort was made to include in the Program Committee academics coming from around the globe, giving the workshop an even more international character.

We would like to express our appreciation to all the staff members of the organizing institution for the help, kindness, and support before, during, and after the workshop. Of course we also would like to cordially thank all speakers and participants of ISIP 2019 for their intensive discussions and exchange of new ideas. This book is an outcome of those discussions and exchanged ideas. Our thanks also go to the Program Committee members whose work has been undoubtedly essential for the selection of the papers contained in this book.

January 2020

Dimitris Plexousakis
Nicolas Spyratos
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