

Guest Editorial Preface

Special Issue on the 12th French Speaking Conference on Data Warehousing and OLAP

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Data warehousing and On-Line Analytical Processing (OLAP) are two corners of Business Intelligence (BI). The French-speaking workshop on Data Warehousing and OLAP (EDA), reaching its 12th edition, is a high-quality forum for researchers, practitioners, developers, industry and end-users interested in the field of BI and Big Data Analytics, in a broad sense. The objective is to explore, disseminate and exchange knowledge in this field through scientific and industry talks. The ever-increasing need to manage, analyse and exploit data has added further importance to this subject, challenging new issues mainly with the advent of big data and cloud computing.

The twelfth edition of EDA was organized in Aix-En-Provence, France on May 9-10th, 2016, and attracted 16 submissions among which 6 were accepted as long papers and 2 as short papers. All the accepted papers were published in a special issue of the French Journal RNTI (Revue des Nouvelles Technologies de l'Information) Hermann Publishing (Volume RNTI B-12). The authors of the 5 best articles among the published papers were then given the opportunity to extend their work and submit it to the special issue of the International Journal of Data Warehousing and data Mining (IJDWM). After a thorough two-round reviewing process with three reviewers per paper and extensive discussions, three articles on various topics have been selected for publication in the IJDWM special issue of EDA 2016.

These three articles describe contributions ranging from designing column big data warehouses to optimize multiple queries in the cloud and also the time series storage in data warehouse with corresponding mathematical models.

In “A Mathematical Model store able to process Raw Time Series,” Ponchateau et al. propose a new approach, and a proof of concept, to store time series coming from sensors and the analysis results as differential equations or mathematical models in a data warehouse. The approach allows to manage, share, query, and tests at the same time the analysis results and the considered time series.

In “Multiple decisional query optimization in big data warehouse,” Ratsimbazafy et al. propose an efficient approach to improve the processing time of massive online analysis, in distributed data warehouses based on 2-phase processing: (1) find all shared data before the query transformation into a Map/Reduce job and (2) materialize those shared data to avoid multiple HDFS scan tasks in order to reduce read/write operations.

In “Formalizing the Mapping of UML Conceptual Schemas to Column-oriented Databases,” Abdelhedi et al. propose an automatic process for creating a big data warehouse with column-oriented systems. Starting from a big data warehouse UML class diagram and using a set of transformation algorithms, the column-oriented physical models are generated.

Finally, we would like to express our appreciation for the large efforts of reviewers who reviewed papers submitted to the special issue for the time they spent evaluating the manuscripts. Likewise, we thank all the authors for submitting their interesting manuscripts to this special issue. We also express our sincere thanks to the editorial board of IJDWM, in particular, to the Editor-in-chief Professor David Taniar. This special issue would not have been possible without their support.

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Guest Editors

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