Data Sci. Eng. (2016) 1:201–202
DOI 10.1007/s41019-016-0031-z

Special Issue Editorial

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Received: 18 December 2016 / Accepted: 22 December 2016 / Published online: 13 February 2017

This issue of Data Science and Engineering contains a collection of five papers from DASFAA 2016, with one additional paper from the regular submissions to the journal.

DASFAA, or the International Conference on Database Systems for Advanced Applications, is an annual international database conference, showcasing state-of-the-art R&D activities in database systems and their applications. The conference provides a forum for technical presentations and discussions among database researchers, developers and users from academia, business and industry.

The 2016 edition of DASFAA was held in Dallas, Texas, USA, and attracted a total of 183 regular paper submissions, spanning over numerous active and emerging topic areas. The conference program committee selected 61 papers to be presented at the conference and published in the conference proceedings [1].

The five papers for this special issue were selected from among all the accepted papers by the special issue guest editors X. Sean Wang, Xiaoyong Du and Hui Xiong, based on the relevance to the journal and the reviews of the conference version of the papers. The authors were asked to revise the paper for journal publication and in accordance with customary practice to add 30% new materials. The revised papers again went through the normal journal-style review process and are finally presented to the readers in the present form. We appreciate the willingness of the authors to help in organizing this special issue.

The five papers in this special issue cover the areas tree data, graph data, spatial data as well as a data problem in recommendation systems. In "Homomorphic Pattern Mining from a Single Large Data Tree," authors use an incremental frequency computation method to enumerate tree patterns in a non-redundant fashion, thereby increase the performance of tree pattern discovery process; in "Parallelizing Maximal Clique Enumeration over Graph Data" and "An I/O-Efficient Buffer Batch Replacement Policy for Update-Intensive Graph Databases," authors study two problems in graph data processing, using parallelization and batching to obtain maximal cliques and to update the graph, respectively; in "Pre-computed Region Guardian Sets Based Reverse kNN Queries," authors tackle the problem of reverse K-nearest neighbor queries using a pre-computation technique; and in "Fast Local Weighted Matrix Factorization for Implicit Feedback," authors study a problem in recommendation systems using a special property they have in matrix factorization.

From the five papers, we observe that the DASFAA community is actively engaged in the whole spectrum of data processing problems, from the system-level data update problems to user-level item recommendation problems. This is an indication of a healthy community. We hope that the readers enjoy this special issue and are properly introduced to the DASFAA community through these papers.

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Reference

1. Navathe SB, Wu W, Shekhar S, Du X, Wang XS, Xiong H (eds) (2016) Database systems for advanced applications: 21st international conference, DASFAA 2016, Dallas, TX, USA, April 16–19, 2016. Proceedings, part I. Springer International Publishing. doi:10.1007/978-3-319-32025-0