Special Issue Editorial

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This issue of Data Science and Engineering contains a collection of five papers from the APWeb-WAIM 2017, with one additional paper from the regular submissions to the journal.

APWeb-WAIM, or the Asia Pacific Web and Web-Age Information Management Joint Conference on Web and Big Data, is an annual international database conference, aiming at attracting professionals of different communities such as industry and academic from not only Asia Pacific countries but also other continents. The objective is to share and exchange ideas, experience and techniques in the area of World Wide Web with the underlying techniques and applications, including Web technologies, database systems, information management, software engineering, and big data.

The 2017 edition of APWeb-WAIM was held in Beijing, China, and attracted a total of 240 regular paper submissions, spanning over numerous active and emerging topic areas. The conference program committee selected 44 regular papers and 32 short 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 Lei Chen and Xiaochun Yang, 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 graph data, streaming data, transaction data, as well as a data problem in decision support. In “Query Optimal K-plex Based Community in Graphs,” authors propose a new k -plex based community model for community search. In “Keyphrase Extraction Using Knowledge Graphs,” authors propose a keyphrases extracting approach using knowledge graphs to detect the latent relations of noun words and named entities. In “Sliding Window Top-K Monitoring over Distributed Data Streams,” authors study how to monitor the top- k data objects with the largest aggregate numeric values from distributed data streams within a fixed size monitoring window, while minimizing communication cost across the network. In “Reordering Transaction Execution to Boost High Frequency Trading Applications,” authors propose a pipeline-aware reordered execution to improve application performance by rearranging statements in order of their degrees of contention. In “A Feedback-based Approach to Utilizing Embeddings for Clinical Decision Support,” authors propose a feedback-based approach which considers the semantic association between a retrieved biomedical article and a pseudo feedback set, hence improve the performance in biomedical articles retrieval.

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From the five papers, we observe that the APWeb-WAIM community is actively engaged in both data processing problems and decision making problems. We hope that the readers enjoy this special issue and are properly introduced to the APWeb-WAIM community through these papers.

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Reference

1. Chen L, Jensen CS, Shahabi C, Yang X, Lian X (eds) (2017) Web and big data: first international joint conference, APWeb-WAIM 2017, Beijing, China, July 7–9, 2017. In: Proceedings, Part I and Part II. Springer International Publishing