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PREFACE

Special Issue of APWeb-WAIM 2020

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We are pleased to present a special issue of Data Science and Engineering (DSE), which contains a collection of six extended papers from the APWeb-WAIM 2020 conference. We also include a regular submission paper in this issue

APWeb-WAIM conferences focus on research, development, and applications in relation to Web information management, including a wide range of topics, such as text analysis, graph data processing, social networks, recommender systems, information retrieval, data streams, knowledge graph, data mining and application, query processing, machine learning, database and Web applications, big data, and blockchain. APWeb-WAIM 2020 was held in Tianjin during September 18–20, 2020, and attracted a total of 259 research paper submissions. The conference program committee selected 68 full research papers, 29 short papers, and 8 demonstration papers to be presented at the conference and published in the conference proceedings [1, 2]. The conference program also included keynote presentations by Prof. James Hendler (Rensselaer Polytechnic Institute, USA), Prof. Xuemin Lin (The University of New South Wales, Australia), Prof. Masaru Kitsuregawa (The University of Tokyo, Japan), and Prof. Xiaofang Zhou (University of Queensland, Australia).

The six extended papers for this special issue were selected from among all the accepted papers by the special issue guest editors Xin Wang, Bohan Li, and Shiyu 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 conference paper for journal publication and in accordance with customary practice of adding 30% new materials. The revised papers again went through the review process in accordance with DSE guidelines and are finally presented to the readers in the present form.

The six extended papers in this special issue cover a variety of topics related to data science and engineering. In the first paper, "Multiple Local Community Detection via High-Quality Seed Identification over both Static and Dynamic Networks", authors propose a novel algorithm to detect multiple communities for a given seed node over static and dynamic networks. In the second paper, "GHSH: Dynamic Hyperspace Hashing on GPU", authors construct a fully concurrent dynamic hyperspace hash table for GPU and design special concurrency control and data sharing strategies to ensure wait-free read operations and high parallel acceleration. In the third paper, "Scalable Multi-grained Cross-modal Similarity Query with Interpretability", authors introduce multi-grained common semantic embedding representations of images and texts and integrate an interpretable query index into the deep neural network. The fourth paper, "Achieving Approximate Global Optimization of Truth Inference for Crowdsourcing Microtasks", presents an approximate global optimal algorithm for answer aggregation of crowdsourcing microtasks with binary answers and extends the local optimal result of Expectation–Maximization. In the fifth paper, "Efficient Personalized Influential Community Search in Large Networks", authors propose an optimal index-based approach for maximal personalized influential community search to meet the online requirement in real-life applications. Finally, the sixth paper, "Deep Multiple Auto-Encoder based Multi-view Clustering", presents a deep multi-view clustering algorithm based on multiple auto-encoder to cluster multi-view data.

We hope that the readers enjoy this special issue. We would like to acknowledge the work done by all authors and their willingness to contribute their papers for this special issue. We thank all the reviewers for their expert comments

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