Editor's Notes

Welcome to the June 2016 issue of the ACM SIGMOD Record!

First of all, I would like to welcome Frank Neven as the new associate editor for the Database Principles Column. This column continues with invitation-based contributions, with a goal to bring the latest results from the Database theory community to the SIGMOD Record readers.

This issue opens with a Database Principles article by Olteanu and Schleich on Factorized Databases. This article takes a fresh look at the problem of computing and representing results to relational queries, in particular, in a factorized manner. For various classes of queries, this work quantifies the succinctness gap between factorized and standard tabular representations for results of conjunctive queries, and surveys algorithms for computing factorized representations of query results. It further discusses the queries with aggregates and order-by clauses and their application to learning regression models over factorized databases, with very promising initial results.

The Vision Articles Column features the article, "Database Meets Deep Learning: Challenges and Opportunities". Motivated by the success of deep learning in applications such as computer vision and natural language processing, this article investigates the application of database techniques for optimizing deep learning systems. It further outlines the research problems in databases where deep learning techniques may help to improve performance. This is a timely article that aims to establish the connection between deep learning and database research, and to foster a synergy between the two disciplines to advance data-driven applications.

The Surveys Column features two articles. The first article, "A Time Machine for Information: Looking Back to Look Forward," is an invited article based on the tutorial by Dong, Kementsietsidis, and Tan at VLDB 2015. The article presents a vision of a time machine for information, in particular, Web information, which will help people "look back" so as to "look forward". With a focus on information extraction and temporal analysis, the article reviews the key ideas on three components (extraction, linking, and cleaning) that are central to the envisioned time machine, and further points out future research directions. The second article, by Wang, Song, and Chen, surveys recent research on accessing dataspaces. A dataspace system processes heterogeneous data sources. Without full control on its data, it gradually integrates data as necessary. Query processing is characterized by best-effort approximate answers where the correct semantic mappings have not been established. In this context, the article surveys major techniques for processing and optimizing search queries in dataspaces, and highlights future directions in accessing dataspaces.

The Open Forum Column features an article by Pavlo and Aslett, discussing "What is really New with NewSQL." NewSQL refers to a new class of database management systems (DBMSs) that claim the ability to scale modern on-line transaction processing (OLTP) workloads in a way that is not possible with legacy systems. Given the continuous development of relational DBMSs over the past four decades, this article examines whether the claim of NewSQL's superiority is true. To do this, the article reviews the history to explain how NewSQL systems came about, and provides a taxonomy of NewSQL systems with a detailed discussion of the different systems under this taxonomy. The main takeaway from the analysis is that NewSQL systems are not a radical departure from existing system architectures. What is innovative is that they incorporate various database technologies into single platforms with significant engineering effort. They are by-products of a new era where distributed computing resources are plentiful and affordable, but at the same time the de-

mands of applications are much greater.

The Distinguished Profiles column features H.V. Jagadish, Professor of Electrical Engineering and Computer Science at the University of Michigan and an ACM Fellow. In this interview, Jagadish talks about his experience of starting the Proceedings of VLDB (PVLDB), a hybrid conference and journal style publication, his involvement with CoRR (Computing Research Repository), and his perspective on data-driven research.

The Data Centers column features an article by Naumann and Krestel on the Information Systems Group at the Hasso Plattner Institute (HPI). The article describes the research focus of the group on data profiling, data cleansing, and text mining.

Finally, this issue closes with a message from the Editor-in-Chief of ACM TODS and Call for Papers for PODS 2017.

On behalf of the SIGMOD Record Editorial board, I hope that you all enjoy reading the June 2016 issue of the SIGMOD Record!

Your submissions to the Record are welcome via the submission site:
http://sigmod.hosting.acm.org/record

Prior to submission, please read the Editorial Policy on the SIGMOD Record's website:
http://sigmod.org/sigmodrecord/

Yanlei Diao

June 2016

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