

Editor's Notes

Welcome to the June 2018 issue of the ACM SIGMOD Record!

This issue starts with the Database Principles column featuring an article by Michael Benedikt, summarizing recent results on reformulating queries over restricted data interfaces in the presence of integrity constraints. In this setting, the question is how to translate a source query written in some declarative language into a target object, either a query or a program, subject to the requirements that such translation must respect a set of integrity constraints and the interface restriction such as restricted access only to a set of views or a set of access methods. This article presents a common framework for dealing with both types of restricted access, as well as the key ideas behind some of the main techniques.

The Surveys column features two articles. The first article, by Polyzotis et al., discusses data lifecycle challenges in production machine learning. As machine learning has become an essential tool for gleaning knowledge from data, there is a realization that the accuracy of a machine learned model is deeply tied to the data that it is trained on. Drawn from the experience in developing data-centric infrastructure for a production machine learning platform at Google, the authors summarize the interesting research challenges encountered, and survey some of the relevant literature from the data management and machine learning communities. The second article, by Hirzel et al., surveys stream processing languages in the Big Data era. It showcases several languages designed for the purpose of high-volume or scalable data stream processing, articulates their underlying principles, and outlines open challenges.

The Distinguished Profiles column includes two articles. The first article features Kenneth Ross, Professor at Columbia University. In this interview, Ken talks about his well-known work on the semantics of Datalog and main memory databases, as well as his recent work on biology. Ken also shares his experience in transitioning from theoretical topics to systems research, and from computer science to biology and bioinformatics. The second article features Paris Koutris, who won the 2016 ACM SIGMOD Jim Gray Dissertation Award for his thesis entitled "Query Processing in Massively Parallel Systems." Paris is now a professor at the University of Wisconsin-Madison, and he did his Ph.D. work with Dan Suciu at the University of Washington.

The Industry Perspectives column features an article by Michels et al. on the new and improved SQL:2016 standard. This new standard is expanding the SQL language to support new data storage and retrieval paradigms that are emerging from the NoSQL and Big Data worlds. The major new features in SQL:2016 include: (a) support for Java Script Object Notation (JSON) data; (b) polymorphic table functions; and (c) row pattern recognition.

The Research Centers Column features two articles. The first article presents the complex event recognition (CER) group affiliated with the National Centre of Scientific Research "Demokritos" in Greece. The CER group works towards advanced and efficient methods for the recognition of complex events in a multitude of large, heterogeneous data streams, covering topics such as efficient detection of patterns, handling uncertainty and noise in streams, machine learning techniques for inferring interesting patterns, and event forecasting. The second article features the data and information management research team at Nanyang Technological University. It presents an overview of the key research themes in the group including graph data management, social data management, information privacy, and fair peer review management.

Finally, the issue closes with a message from the Editor-in-Chief of ACM TODS on recent changes to the editorial board.

On behalf of the SIGMOD Record Editorial board, I hope that you enjoy reading the June 2018 issue of the SIGMOD Record!

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