Editor's Notes

Welcome to the September 2024 issue of the ACM SIGMOD Record!

This issue starts with the Database Principles column presenting an article by Tziavelis, Gatterbauer, and Riedewald on the topic of ranked enumeration of database queries. The authors cover any-k algorithms for join queries that push ranking into joins, allowing for the generation of the top-ranked answers while avoiding materialization of intermediate results. A key insight of the work is the connection between ranked query enumeration and the fundamental problem of computing the k-th shortest path in a graph. The experimental results show the algorithms to be very efficient in practice. The article would be of interest to the readers who look for database algorithms with solid theoretical guarantees, and in particular to practitioners looking to implement and optimize any-k approaches.

The Research Articles column features an article by Wu and Wang. The article focuses on the problem of cost-based query optimization under the assumption that the unit costs of executing certain types of query-processing operations (such as table scans or joins) are variables, rather than constants. The authors discuss how the problem connects to the hyper-parameter optimization problem in AutoML, and showcase impressive performance results for the queries optimized under the resulting paradigm, both in the single-query and in the multiple-query workload settings. The article concludes with suggestions for future work in this problem space.

The Reminiscences on Influential Papers column presents contributions by Goetz Graefe and Raja Appuswamy.

The DBrainstorming column, whose goal is to discuss new and potentially controversial ideas that might be of interest and benefit to the research community, features an article by Sayan Ranu. The contribution focuses on the problem of lack of interpretability of the predictions provided by graph neural networks (GNNs), with the issues posing significant barriers to the adoption of GNNs in critical domains, including healthcare and finance. The article outlines key challenges in this space and the author's ideas for overcoming them.

The Reports column presents a contribution by Miedema and colleagues, which summarizes the outcomes of the Second International workshop on Data Systems Education: Bridging Education Practice with Education Research (DataEd '23). The workshop was held in conjunction with the SIGMOD '23 conference in Seattle, USA on June 23, 2023. The aim of the workshop was to provide a dedicated venue for presenting and discussing data-management systems education experiences and research, by bringing together the database and computing-education research communities to share findings, to compare and exchange perspectives and methods, and to look for opportunities for mutual progress in data systems education. The program featured two keynote talks, eight research presentations, and a discussion session. The article presents the workshop's main results, observations, and emerging research directions.

On behalf of the SIGMOD Record Editorial board, I hope that you enjoy reading the September 2024 issue of the SIGMOD Record!

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