Guest Editor's Notes

Welcome to this Special Issue of the ACM SIGMOD Record on Visionary Ideas in Data Management!

This special issue features a collection of articles describing visions of future systems, frameworks, algorithms, applications, and technology related to the management and use of data. With this special issue, we hope to promote the discussion and sharing of challenges and ideas that are not necessarily well-explored at the time of writing, but have potential for significantly expanding the possibilities and horizons of the field of databases and data management.

We received 33 submissions from around the world: Australia, Austria, Brazil, Canada, China, France, Germany, Greece, India, Ireland, Italy, Singapore, Switzerland, UK, and USA. The submissions were evaluated on their originality, significance, potential impact, and interest to the community, with less emphasis on the current level of maturity, technical depth, and evaluation. Of the 33 submissions, 9 were selected to appear in this special issue; 4 are currently under revision for possible inclusion in the Vision Track of future issues of the SIGMOD Record.

The selected papers cover a truly diverse landscape. Some of them respond to recent hardware and technology trends, by exploring new data management techniques and architectures for field-programmable gate arrays, large main memory, modern data centers, and assemblies of autonomous, heterogeneous components. Other papers tackle new types of users or novel applications, by envisioning a new architecture to unify querying over multiple data models, use of on-the-fly synopsis in the simulation sciences, a system for managing and mining sequence data, and support for exploratory computing by data enthusiasts. Last but not least, inspired by how the human brain works, a paper proposes "managed forgetting" of information to ensure that important content is kept safe and useful over time. We hope this collection of papers will give you a glimpse of what new and exciting directions that our community is pursuing.

I would like to thank a number of important people who helped make this special issue possible. My first thanks go to Yanlei Diao, the Editor-in-Chief of the SIGMOD Record, for first approaching me in 2014 with her vision of a permanent home for vision articles in our field, and for her generous help in putting together this issue. I would also like to thank the SIGMOD Execute Committee for supporting the idea of using the special issue to kick-start the effort. My heartfelt thanks go to my fellow Associate Editors—Marco Brambilla, Chee-Yong Chan, Tasos (Anastasios) Kementsietsidis, Olga Papaemmanouil, and Aditya Parameswaran—who graciously helped me with the editing responsibilities. Last but not least, I am deeply grateful to the authors and reviewers who contributed to this special issue—it would not have been possible without your enthusiasm and hard (and impressive) work under such a tight schedule.

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

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

Prior to submitting, please read the Editorial Policy on the SIGMOD Record's Web site:
http://www.sigmod.org/publications/sigmod-record/sigmod-record-editorial-policy

Jun Yang

June 30, 2015

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