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LARGE DATABASE QUERY OPTIMIZATION

COMPUTING

Software suite designed to analyze and optimize large, local relational database queries.

TECHNOLOGY TYPE

Data Infrastructure

STAGE OF DEVELOPMENT

- System prototypes developed.

- Validated invention and demos of systems.

IP PROTECTION

Nationalized PCT Pending in the United States

Generating and Implementing Local Search Engines Over Large Databases
US20160103906A1

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Reference Numbers: U-5598, U-5850, U-6124

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TECHNOLOGY SUMMARY

Large local database queries are critical and often time-consuming. In relational databases, for example, joins are the most costly operations, but provide the most valuable information.

A software suite has been developed that speeds database queries by an order-of-magnitude. The suite includes software designed for local database crawling that enables users to deploy a Google-esque query engine over their data almost instantaneously. In addition, STORM (spatio-temporal online reasoning and management) software allows for online analytics of multi-dimensional data, incorporating machine learning into database query analysis. The final software piece speeds join queries in relational databases, facilitating interactive data analytics at user-friendly speeds.

FEATURES AND BENEFITS

- Increases large relational database query speeds.
- Includes automatic query engines.
- Supports analysis of multi-dimensional data.

RECENT PUBLICATIONS

Christensen, R., Wang, L., Li, F., Yi, K., Tang, J., & Villa, N. (2016). STORM: Spatio-Temporal Online Reasoning and Management of Large Spatio-Temporal Data. doi: 10.1145/2723372.2735373
Li, F., Wu, B., Yi, K., & Zhao, Z. (2017). Wander Join and XDB: Online Aggregation via Random Walks. *ACM SIGMOD Record, 46*(1), 33-40. doi: 10.1145/3093754.3093763

INVENTOR PROFILE

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DATE UPDATED: 7/23/2019