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|  | **(R2), KAUST ID: 187176** |
|  | **Matrix Algebra Framework for Portable, Scalable and Efficient Query Engines for RDF Graphs** |
|  | **EuroSys Conference 2019** |
|  | CS 341 |
| Reviewer | Reviewers' Comments |
| **Summary** | |
| R2 | MAGiQ represents the RDF graph as a sparse matrix and defines a domain-specific language of algebraic operations. |
| R2 | MAGiQ is a matrix algebra framework for implementing SPARQL query engines. |
| R2 | MAGiQ stores the RDF graph as a sparse integer matrix and translates SPARQL queries into concise matrix algebra programs that operate on the matrix representation. |
| **Strengths** | |
| R2 | MAGiQ is the first implementation of complex graph process system as a SPARQL query engine. The sparse matrix algebra paradigm eliminates the need for building exhaustive indices. So that MAGiQ loads data faster and uses less memory. |
| R2 | MAGiQ has good scalability. The scalability does not pose an adverse effect on performance. |
| R2 | Although the concepts require much background knowledge, the figure's illustration is clear. And tables are precise. |
| **Weaknesses** | |
| R2 | MAGiQ has poor performance for selective queries. |
| R2 | In some cases, it still slower than the SOTA distributed-memory engine AdPart. |
| R2 | MAGiQ (CombBLAS) is suitable for querying very large datasets, which might not be the most commonly used dataset. |
| **Justification** | |
| R2 | This paper explains the main idea clearly. This paper gives many equation examples. |
| R2 | The author implements MAGiQ, and their experiment results show that loading time is quicker(Table 3), and Runtimes for data-intensive queries is faster (Table 4). The evidence is sufficient. |
| R2 | This paper is provoking and introduces enough background knowledge. |
| **Further Comments** | |
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