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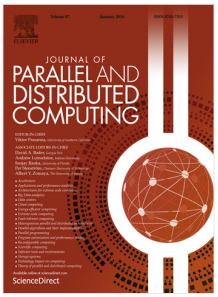

Making sense of performance in in-memory computing frameworks for scientific data analysis: A case study of the spark system

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*Highlights (for review)

Research highlights

- We develop a benchmark, ArrayBench, for benchmarking scientific data analytics that process gene expression matrices using Spark and SciDB.
- We study the correlations between the performance of Spark data analytics and various OS components, e.g., memory, storage, and file systems.
- Our findings shed light on the improvement of Spark and SciDB and the future development of data-intensive data analytics using the in-memory computing frameworks.

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