

Large-scale RNA-Seq data analysis

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ABSTRACT

With the advance of high-throughput RNA sequencing technologies, they are providing us with incredible understanding of the transcriptome, and have been instrumental in revealing transcriptome's sequence-level complexity. When dealing with large-scale datasets such as RNA-seq, the dimension could be so high that it would take SVD hours or days to complete process. At the core of this work is to efficiently approximate the dominant k singular values and vectors based on randomized algorithm, which delivers almost accurate results in substantially less time.

REFERENCES

1. Wang, Z., Gerstein, M. and Snyder, M., "RNA-Seq: a revolutionary tool for transcriptomics", *Nature Reviews Genetics*, Vol. 3, 2009, pp. 57-63.