# Next Steps : Streaming

- Streaming algorithms to approximate top singular vector in the row arrival model

- [Price '23] shows that if $\sigma_1(A)/\sigma_2(A) \leq O(1)$, then need $\Omega(d^2)$ space to approximate top singular vector

- Price also shows that if $\sigma_1(A)/\sigma_2(A) \geq C\sqrt{\log n \cdot \log d}$, then can approximate top singular vector in $O(d)$ space

- Can we relax the gap assumption?

- Can we assume random order or some conditions on $A$ to obtain better algorithms?

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# My other works