

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?

My other works

- **Classic**

- Ridge Regression [KW '20], [KW '22]
- Dimensionality Reduction for Sum-of-Distances [FKW '21]
- Reduced Rank Regression [KW '21]
- Fast and Small Subspace Embeddings [CCKW '22]
- Fast training of Transformers via Sketching [KMZ '23]