Learned Sketches

- $Q' = (QS_1 * QS_2)$ and $Q'' = (Q')^{\otimes 2}$

- S_1 and S_2 are Gaussian matrices randomly sampled

- Can we learn them?

- Instead of using QS_1 and QS_2, we use a small neural network

- Improves performance significantly

Learned Sketches

- $Q' = (QS_1 * QS_2)$ and $Q'' = (Q')^{\otimes 2}$

- S_1 and S_2 are Gaussian matrices randomly sampled

  - Can we learn them?

- Instead of using QS_1 and QS_2, we use a small neural network

  - Improves performance significantly

Learned Sketches

$$Q'' = (Q')^{\otimes 2}$$

Q $\xrightarrow{\text{two layer network}}$ Q' $\xrightarrow{\text{self tensoring}}$ Q''