Challenges

- Each setting has different challenges

- Classical

  - Algorithms that are fast

- Streaming

  - Algorithms that work in memory-constrained settings

- Distributed

  - Algorithms that use low amount of communication

Sketching

- A broad set of techniques developed over last 20 years to handle large datasets

- Shrink the large dataset into a small dataset

- Efficiently perform computation on the small dataset

A $\longrightarrow$ sk(A) $\longrightarrow$ Result