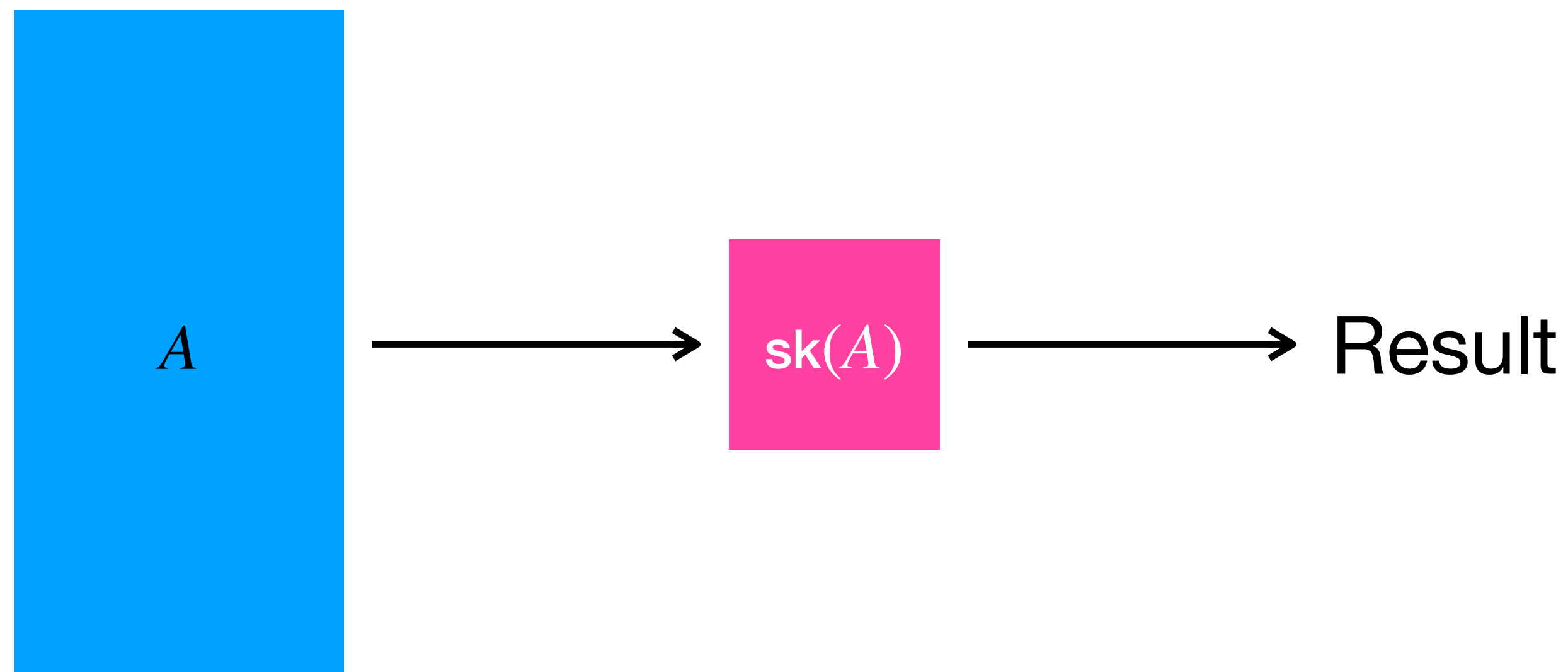


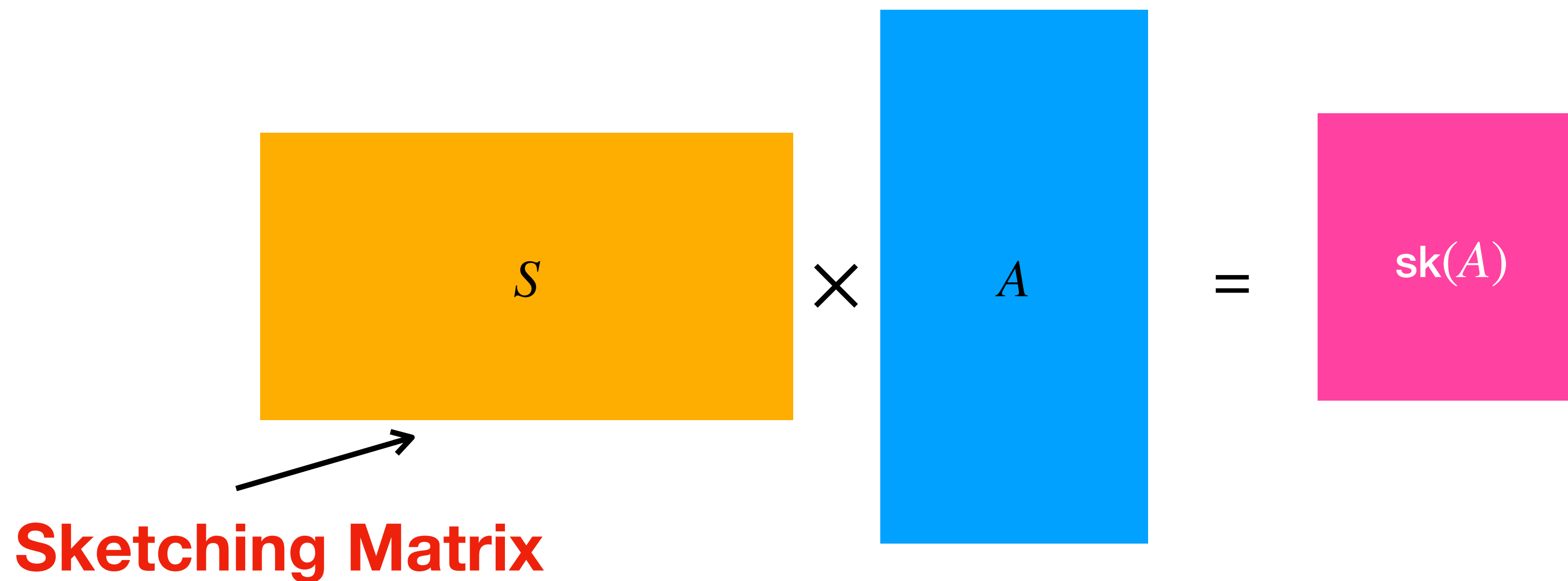
Sketching

- 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



Linear Sketching

- Apply a randomized linear transform
 - CountSketch [Clarkson, Woodruff '13], OSNAP [Nelson, Nguyen '13], SRHT [Tropp '10], ...



- A good sketching matrix S consolidates information into “smaller factor”