## Classic Setting

- ullet The matrix A is available to us and can be arbitrarily accessed
- Compute SVD :  $nd^2$  time
  - Very slow on modern datasets
  - Does not utilize sparsity

## Turnstile Streaming



Updates:  $(i_1, \Delta_1)$   $(i_2, \Delta_2)$  ...  $(i_m, \Delta_m)$