

$$A = [A^1 | A^2 | \dots | A^M]$$

SVD

SVD

SVD

$$\hat{U}^1, \hat{\Sigma}^1$$

$$\hat{U}^2, \hat{\Sigma}^2$$

...

$$\hat{U}^M, \hat{\Sigma}^M$$

$$[\hat{U}^1 \hat{\Sigma}^1 | \hat{U}^2 \hat{\Sigma}^2 | \dots | \hat{U}^M \hat{\Sigma}^M]$$

SVD

$$\hat{U}, \hat{\Sigma}$$