

SVD

$$\begin{matrix}
 & c_1, c_2, \dots, c_j \\
 \begin{matrix} w_1, w_2, \dots, w_i \\ \textbf{M} \\ i \times j \end{matrix} & \left(\begin{array}{c} \\ \\ \\ \end{array} \right) & = & \begin{matrix} & t_1, t_2, \dots, t_k \\ \begin{matrix} w_1, w_2, \dots, w_i \\ \textbf{U} \\ i \times k \end{matrix} & \left(\begin{array}{c} \\ \\ \\ \end{array} \right) & \begin{matrix} t_1, t_2, \dots, t_k \\ \begin{matrix} \textbf{\Sigma} \\ k \times k \end{matrix} & \left(\begin{array}{c} \\ \\ \\ \end{array} \right) & \begin{matrix} t_1, t_2, \dots, t_k \\ \begin{matrix} \textbf{V} \\ k \times j \end{matrix} & \left(\begin{array}{c} \\ \\ \\ \end{array} \right) & c_1, c_2, \dots, c_j
 \end{matrix}$$