

$$\begin{array}{ccccccc}
 & X & & U & & \Sigma & & V^T \\
 & (\mathbf{d}_j) & & & & & & (\hat{\mathbf{d}}_j) \\
 & \downarrow & & & & & & \downarrow \\
 (\mathbf{t}_i^T) \rightarrow & \begin{bmatrix} x_{1,1} & \dots & x_{1,n} \\ \vdots & \ddots & \vdots \\ x_{m,1} & \dots & x_{m,n} \end{bmatrix} & = & (\hat{\mathbf{t}}_i^T) \rightarrow & \begin{bmatrix} \begin{bmatrix} \mathbf{u}_1 \end{bmatrix} & \dots & \begin{bmatrix} \mathbf{u}_l \end{bmatrix} \end{bmatrix} & \cdot & \begin{array}{c} \text{Singular values} \\ \text{("concept strength")} \\ \begin{bmatrix} \sigma_1 & \dots & 0 \\ \vdots & \ddots & \vdots \\ 0 & \dots & \sigma_l \end{bmatrix} \end{array} & \cdot & \begin{bmatrix} \begin{bmatrix} \mathbf{v}_1 \end{bmatrix} \\ \vdots \\ \begin{bmatrix} \mathbf{v}_l \end{bmatrix} \end{bmatrix}
 \end{array}$$