

$$\begin{array}{l}
\frac{N}{M} \\
\frac{T}{K} \\
\ll \\
\min(N,M) \\
H \\
\mathbf{R} \\
<\rangle \\
\in \\
R^{N\times M} \\
\mathcal{N} \\
\mathcal{M} \\
\mathbf{R} \\
\mathbf{R} \\
\mathbf{R} \\
\mathbf{R} \\
\mathbf{R} \\
\in \\
R^{N\times M} \\
\mathbf{W} \\
\mathbf{P} \\
\mathbf{Q} \\
\mathbf{T}^{\mathcal{N}} \\
\mathbf{T}^{\mathcal{M}} \\
\mathbf{R}^h \\
\mathbf{C}^h \\
\mathbf{W}^h \\
\mathbf{V}^h \\
\mathcal{N}^h, \mathcal{M}^h \\
\mathbf{P}_u^h, \mathbf{Q}_m^h \\
\mathcal{R}^h um \in \\
R^K \\
a_i = \langle u_i, m_i \rangle \\
\langle u_i, m_i \rangle \\
\in \\
\mathcal{A} \\
\mathbb{A} \\
\subset \\
\mathcal{A} \\
\hat{a}_h = \langle \hat{u}_h, \hat{m}_h \rangle \\
\in \\
\mathbb{A} \\
E(a_i, a_j) \\
z_i z_{u,m} \\
i = \\
\langle u, m \rangle \\
\theta_u \\
u \in \\
R^K \\
\phi_k \\
k \in \\
R^M \\
\alpha \\
\beta \\
\Psi_0
\end{array}$$

