

$$\begin{array}{ccccc}
 (N \times T) & & (N \times 5) & & (N \times T) \\
 \begin{array}{|c|} \hline \text{Heatmap } Y \\ \hline \end{array} & \approx & \begin{array}{|c|} \hline \text{Heatmap } W \\ \hline \end{array} & \times & \begin{array}{|c|} \hline \text{Heatmap } C \\ \hline \end{array} = \\
 Y & & W & & C
 \end{array}$$

Diagram illustrating a matrix factorization or approximation process. A large heatmap matrix  $Y$  of size  $(N \times T)$  is approximated ( $\approx$ ) by the product of a matrix  $W$  of size  $(N \times 5)$  and a matrix  $C$  of size  $(5 \times T)$ . The result of the multiplication is an exact reconstruction of matrix  $Y$  ( $=$ ).