

Training is performed by minimising the point-wise loss between \hat{y}_{ui} and y_{ui} .

Input vector \mathbf{x}_{ui} is fed through multi-layer perceptron, applying non-linear activation functions.

User and Item embeddings, $\mathbf{p_u}$ and $\mathbf{q_i}$ are concatenated to form input vector, \mathbf{x}_{ui} .

User and Item embeddings, $p_u \text{ and } q_i, \text{ are } \\ \text{ unknown and are } \\ \text{ updated iteratively in training.}$