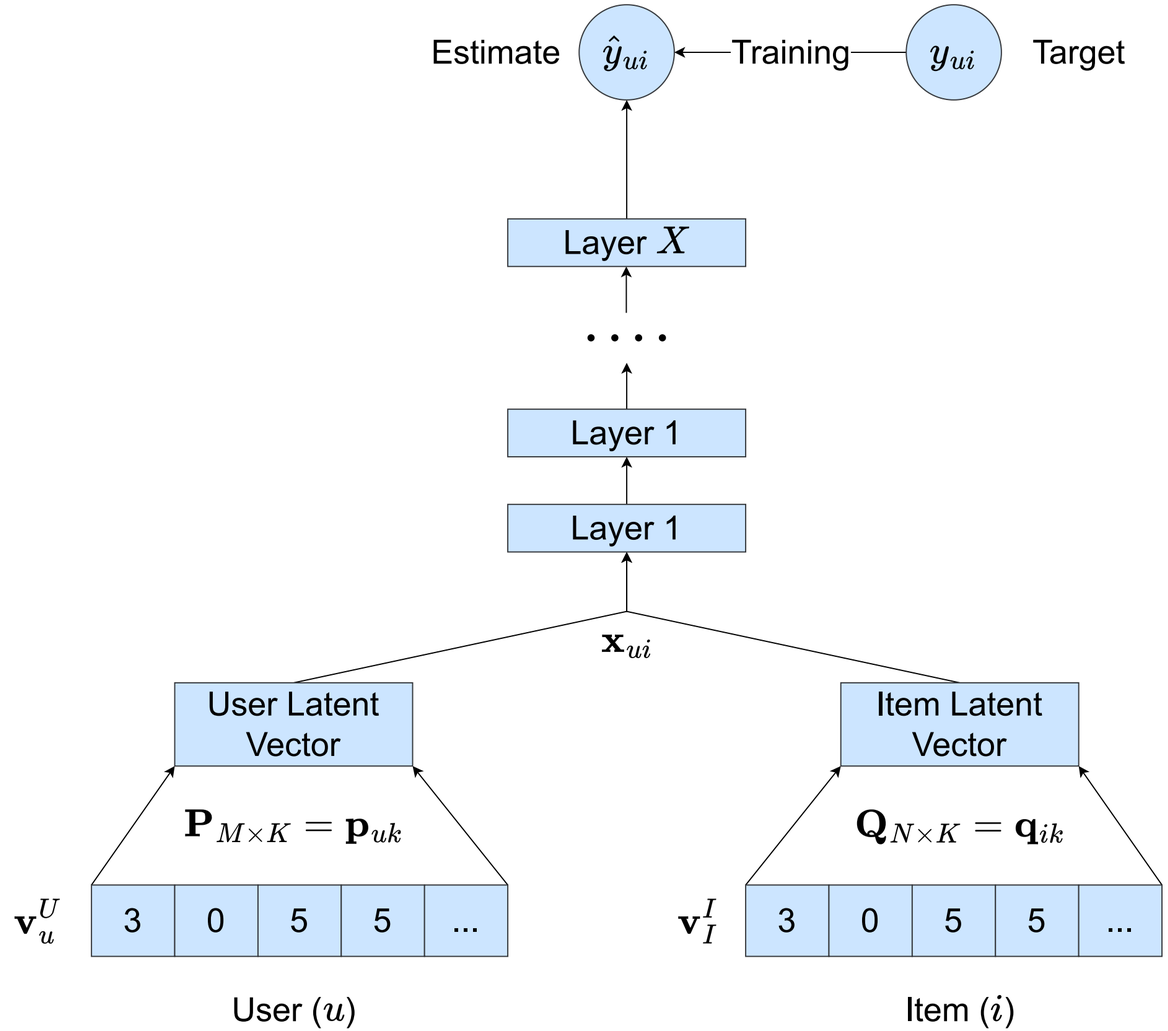
Output Layer

Neural Collaborative Filtering Layers

Embedding Layer

Input Feature Layer



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, $\mathbf{p_u}$ and $\mathbf{q_i}$, are unknown and are updated iteratively in training