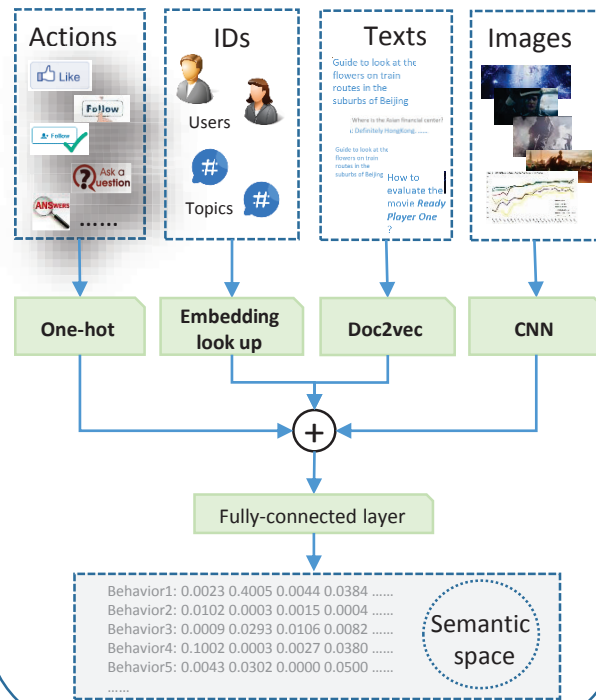


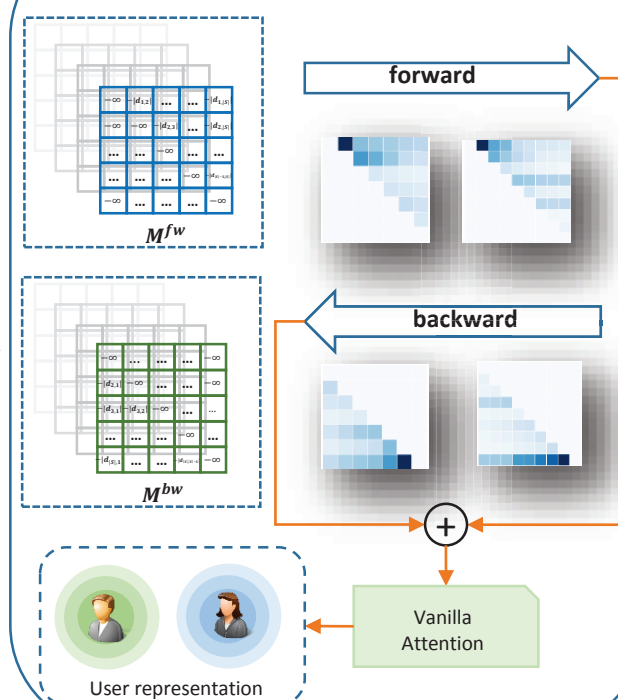
## Multi-type actions and Multi-modal content



## Heterogeneous Behavior Embedding



## Self-Attention Network with Position Encoding



## Sequential Recommendation



$$\mathcal{L} = \sum_u \sum_j \sum_{j' \in j} -[\bar{P}_{jj'} \log P_{jj'} + (1 - \bar{P}_{jj'}) \log P_{jj'}]$$