

Input layer ${\bf w}$ and output layer ${\bf y}$ have the same dimensionality as the vocabulary (10K - 200K) Hidden layer ${\bf s}$ is orders of magnitude smaller (50 - 1000 neurons)

U is the matrix of weights between input and hidden layer, V is the matrix of weights between hidden and output layer

Without the recurrent weights W, this model would be a bigram neural network language model