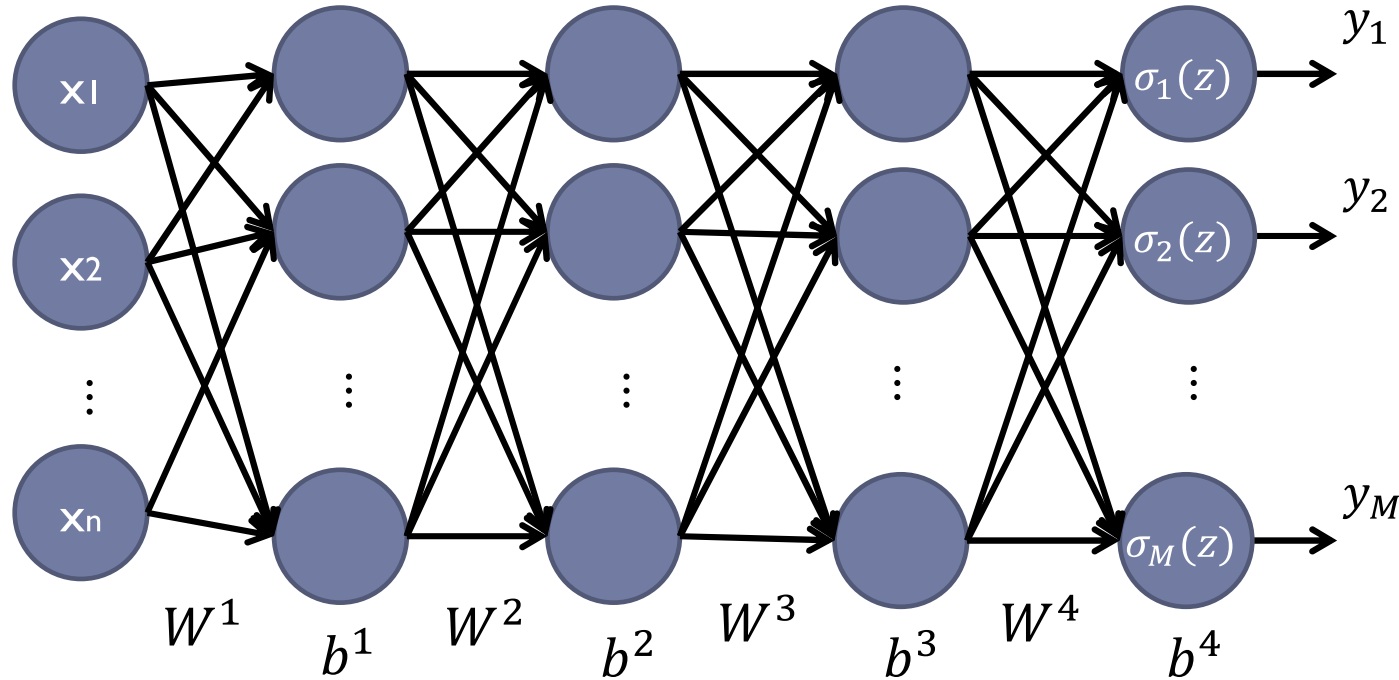


Model Overview

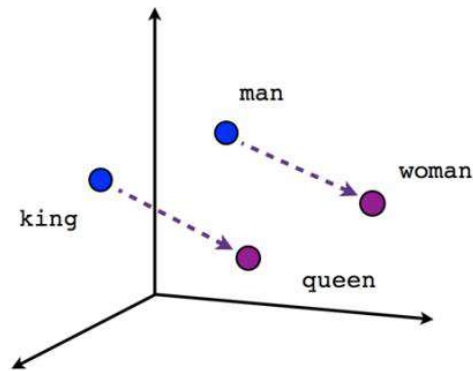
Input layer Layer 1 Layer 2 Layer 3 Layer 4 Output layer



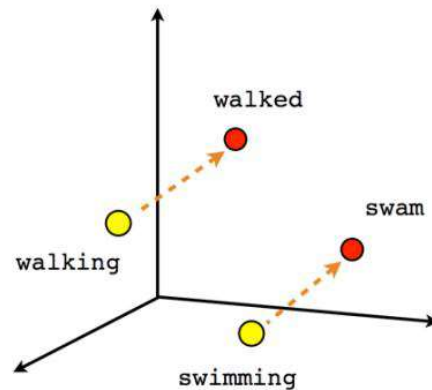
**Cost/Loss
(a value)**

DNN also called “Multilayer perceptron”

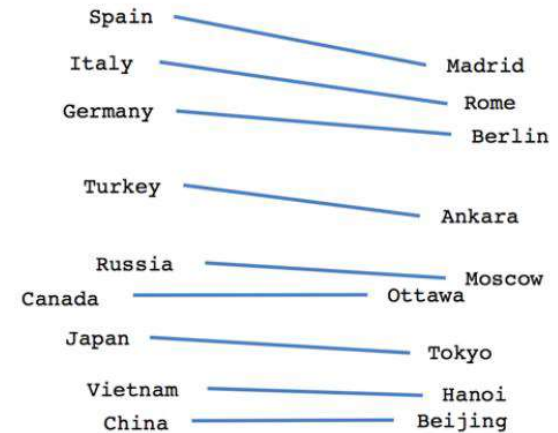
Skip-Gram



Male-Female



Verb tense



Country-Capital

$$\text{vector}(\text{king}) - \text{vector}(\text{queen}) = \text{vector}(\text{man}) - \text{vector}(\text{woman})$$

$$\text{vector}(\text{walking}) - \text{vector}(\text{walked}) = \text{vector}(\text{swimming}) - \text{vector}(\text{swam})$$

$$\text{vector}(\text{Spain}) - \text{vector}(\text{Italy}) = \text{vector}(\text{Madrid}) - \text{vector}(\text{Rome})$$

LSTM Structure

