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Introduction to Neural Networks and TensorFlow

Practice Assignment: Classification Using Deep Neural Networks

N-grams vs. Sequence Models

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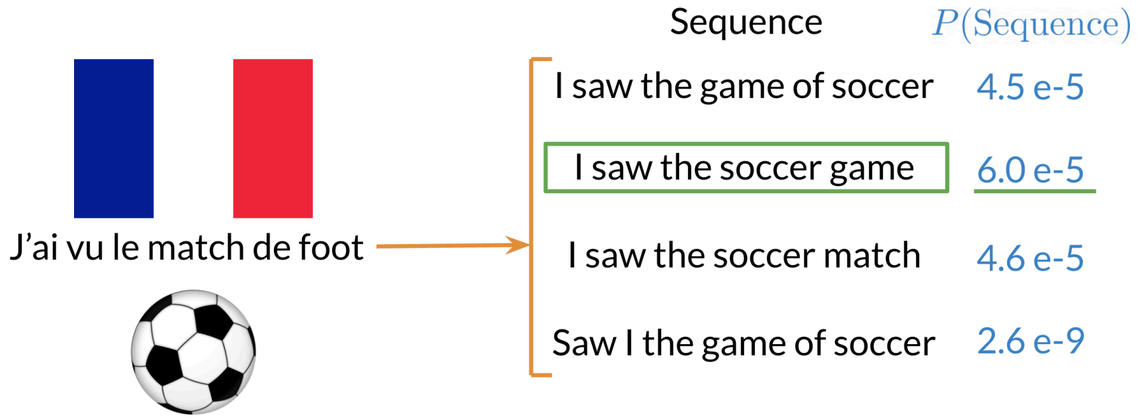
Traditional Language models

Traditional language models make use of probabilities to help identify which sentence is most likely to take place.



In the example above, the second sentence is the one that is most likely to take place as it has the highest probability of happening. To compute the probabilities, you can do the following:

$$P(w_2|w_1) = \frac{\text{count}(w_1, w_2)}{\text{count}(w_1)} \longrightarrow \text{Bigrams}$$

$$P(w_3|w_1, w_2) = \frac{\text{count}(w_1, w_2, w_3)}{\text{count}(w_1, w_2)} \longrightarrow \text{Trigrams}$$

$$P(w_1, w_2, w_3) = P(w_1) \times P(w_2|w_1) \times P(w_3|w_2)$$

Large N-grams capture dependencies between distant words and need a lot of space and RAM. Hence, we resort to using different types of alternatives.