

To handle unknown words, I add “smoothing method” when computing the probability of each words.

For example, when computing $P(\text{when} | \langle s \rangle)$ by adding smoothing

$$P(\text{when} | \langle s \rangle) = (\text{number of times “when” appear given } \langle s \rangle + 1) / (\text{number of times } \langle s \rangle \text{ appears} + \text{length of the sentence})$$

Therefore, when there is an unknown word, the numerator would be 1 and the probability would not be 0, so that it prevent the sentence probability becomes 0