

Part-of-Speech Tagging in NLP: Techniques and Applications

# Part-of-speech (POS) tagging:

The process of labeling words in a text with their corresponding parts of speech in natural language processing (NLP). It aids in understanding the grammatical structure and meaning of a text.

#### Lemmatization:

A method that uses dictionaries to find the base form (lemma) of a word, considering inflections or variations. Contrasted with stemming, lemmatization provides more accurate base terms.

# Named Entity Recognition (NER):

An NLP task involving the identification and classification of entities such as names, locations, and organizations within a text.



## Hidden Markov Model (HMM):

A statistical model used in POS tagging, consisting of states representing POS tags and transitions between them. It employs the Viterbi algorithm to determine the most likely sequence of tags for a given text.

## Viterbi Algorithm:

An algorithm used in HMM-based POS tagging to calculate the probability of different sequences of POS tags and select the most likely one for a given text.









