

Natural Language Processing is a field of study focusing on the interactions between computers and human language.

The goal is to give a computer the ability to analyze and categorize information given as human language.

NLP is a subset of Artificial Intelligence. If AI is meant to teach a computer how to act as a human, NLP is focused only on teaching a computer how to understand language like a human.

Natural Language Generation turns non-linguistic data into a human language like english. NLP turns a human language into non-linguistic data.

Some common applications of NLP are: Sentiment analysis, virtual assistants, and text summarization.

There are three approaches to NLP. The first is Rule-based which is the oldest. This system uses a set of rules to classify each word in the text it is analyzing. It is fast when a rule exists for the word. However, if there is no way to categorize the word, it is unable to process it.

The second approach is the machine learning approach. This system uses a large amount of training data to find the most probable meaning of the input text. Instead of using rule-based patterns given by programmers, this approach lets the computer determine the patterns itself. It also becomes more accurate the more it is used.

The third approach is the neural network approach. The neural networks will learn important patterns independently. It uses a concept called word embeddings to predict the meaning of a word based on its context.

NLP seems very interesting to me because I want to learn how a machine can understand the complexities of human language. There are plenty of examples in the english language of words that can mean something entirely different given different contexts. I would like to learn more about NLP to apply it in my own projects.