

Overview of NLP

Natural Language Processing allows computers to be able to decode and understand human language in text form based off rules that are written.

Relationship between AI and NLP

NLP is a branch of Artificial Intelligence, and its role allows the machine to understand human language.

Natural language understanding vs Natural language generation

Natural language understanding essentially processes and analyses the text by its meaning or the context of the text while natural language generation is the formation of human text. For example, there are modern NLP applications which are language translators, grammar/spell checks, and chatbots. There's currently one being the biggest thing talked about in tech and education is ChatGPT, which is an AI chatbot that has been trained with massive amount of data to generate human like responses.

Natural Language Process Approaches

There are three main approaches to NLP which are rule based, statistical and probabilistic approaches, and deep learning. The rule-based approach is one of the oldest techniques that utilizes grammar rules to generate syntactically correct text. An example of the rule-based approach being used are applications that use spell checks. Statistical and probabilistic was a mathematical approach to parse through text to find the probability of words and sequences. This approach helped develop language models which helped the translation within the machines systems. An example would be a search engine like google. Deep learning is the modern-day approach that has evolved over the years and has improved the results of language translation, generation, and understanding but one of the problems that comes with deep learning is that a large amount of data is required for processing and hardware is something that not everyone has access to.

Why I like NLP

What initially got me interested was a machine learning course I had taken earlier and the projects and lectures that were covered. Since NLP and ML are both branches of AI I thought this would be the perfect opportunity to further develop my skills and learn more about the topic by building out projects.