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Overview of NLP

a. Natural language processing is the study of allowing computers to process natural languages.

b. Natural language processing is a branch of artificial intelligence and many NLP techniques use artificial intelligence.

c. Natural language understanding allows a computer to process natural language and understand its meaning. Natural language generation is generating natural language text.

d. Chatbots are a modern NLP application that uses natural language understanding to understand the input and natural language generation to create a response. Speech recognition uses natural language understanding to convert speech into text.

e. Rules-based is the oldest way to process text, a program follows a set of rules to process text. An example of a rules-based approach was converting plural words to their singular forms with the use of regular expressions. Rules-based approaches were difficult to use with actual language since they're complex and there are too many rules. Statistical approaches use probabilities of words and sequences and classic machine learning algorithms for language models. An example use of statistical approaches is predictive text where a user inputs text and the program suggests the most likely thing you were going to input.

Deep learning uses a high amount of processing power and large amounts of data to process text. An example use of deep learning is translating texts to different languages.

f. I was always interested in other languages and how to use them for computing. I want to learn more about NLP and use them in personal projects and whether I want to continue working in NLP in my career.