Overview of NLP

1. NLP is the process of attempting to coerce computers to parse the human language in its many contexts.
2. NLP is a subsect of AI, where many of the technologies used in AI such as Deep Learning are used to assist in language processing
3. NLU is attempting to take in sentences and other natural language and have the computer understand and be able to work with natural language. NLG is attempting to create natural language such that people will not notice the difference between a human spoken sentence and a computer generated one.
4. Some Modern application of NLP are:
    a. Detecting Spam
    b. Voice Recognition
    c. Sentiment Analysis
    d. Etc.
5.

    The first NLP approach was rules based, as is the case when first learning a language we also attempted to apply that way of learning to a computer where processing language was based on the rules of that language, some examples of this is spell checking, the eliza chatbot, and some context-free grammars.

    The second approach was based in statistics and probability, which used word frequencies and traditional word learning algorithms to attempt to understand given sentences. The downsides to this is that a moderate amount of data is needed to gain accurate statistics/probabilities and it also require a decent amount of power to process that data. Some examples of where this approach was used are speech recognition and the google search bar.
    The third approach is the newest and utilizes Deep Learning to absorb a large amount of data and then attempt to use that data to generate/understand the natural languages through sheer trial and error. A major downside to this method is that it requires prohibitive amounts of data such that only the likes of Google have the data needed to use this method. Likewise the amount of processing power needed to go through all this data is also only in found at the likes of Google which makes it not very effective for small data sets. Some examples of this is OpenAI's projects such as GPT3.
6. For me NLP is interesting because of how complex human language is and it would be really useful to be able to parse a user given sentence and provide something relevant to that sentence. Personally I would use it in one of my text adventure hobby projects to ease the interface sticking points that so often happen in that genre of games.
7. Link To Github Porfolio