Read up on any innovative technology using NLP and write a brief summary about the technology, what is achieves/does and an overview of how it works.

Google Assistant

Google Assistant uses NLP to delivery conversational and interactive user experience. It uses advanced machines learning algorithms and very large language models which enables it to understand user questions and statements, interpret their intent and generate appropriate responses or act on instructions.

Google Assistant uses automatic speech recognition and natural language understanding to process inputs provided by users. When users speak, the verbal input is converted into a machine-readable format so the information can be analysed and sorted. The natural language processing is then used to categorise the users intent and context. This involves tasks such as entity recognition such as names, locations or dates, intent classification to determine the purpose or action that the user wants to perform and sentiment analysis considering the emotional tone of the verbal input.

A huge amount of data and machine learning models are used to continually improve its understanding and responsiveness. It uses knowledge from Google Search and also from the individual users over time.

The functionalities also go beyond just question and answer interactions and can include a range of tasks such as setting alarms, sending messages, making phone calls, scheduling appointments, playing music or finding playlists.

Google Assistant can also used across a number of different devices and platforms including smart phones, smart speakers, smart displays or connected home devices. All these functions enables the assistant to create a conversational and interactive user experience. There is also a lot of potential future developments as the technology learns to be more accessible and intuitive, simplifying tasks and improving people's lives.