Natural Language processing and chatterbots

For each of the areas covered, you should report on the following.

**What does it do? (600 words)**

What is the state of the art of this new technology?

What can be done now?

What is likely to be able to do be done soon (say in the next 3 years)?

What technological or other developments make this possible?

Natural Language Processing (NLP) is a branch of Artificial Intelligence which allows computers to break down, decipher and make sense of human language in a way that is valuable. Once text has been provided the computer uses algorithms to extract the meaning of sentences and collect useful data from them. Syntactic analysis and semantic analysis are the principal techniques used to process Natural Language Processing tasks.

NLP is the power behind such applications as Google Translate, Microsoft Word , OK Google, Siri, Alexa and Cortana.

NLP technology has been progressing so rapidly that data scientists have had to continually learn new machine learning techniques but since the development of the current NLP architecture, attention based networks, data scientists can finally have some time to catch up.

Attention based networks started to become popular from 2015 onwards. Attention based networks are a type of neural network that allows for focus on a specific subset of data input, specifically what you want the network to pay attention to. From 2017 a specific type of attention based network called The Transformer Model has been especially dominant in modern NLP architecture.

**References:**

[**https://towardsdatascience.com/high-level-history-of-nlp-models-bc8c8b142ef7**](https://towardsdatascience.com/high-level-history-of-nlp-models-bc8c8b142ef7)

The ultimate objective of NLP is to read, decipher, understand, and make sense of the human languages in a manner that is valuable.

**Siri uses** a variety of advanced machine learning technologies to be able to understand your command and return a response — primarily **natural language processing** (**NLP**) and speech recognition.1

**What is the likely impact? (300 words)**

What is the potential impact of this development? What is likely to change? Which people will be most affected and how? Will this create, replace or make redundant any current jobs or technologies?

**How will this affect you? (300 words)**

In your daily life, how will this affect you? What will be different for you? How might this affect members of your family or your friends?