

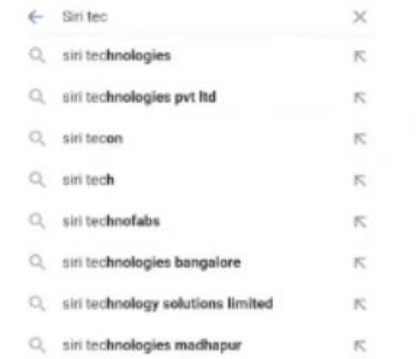
Intro to NLP

Definition

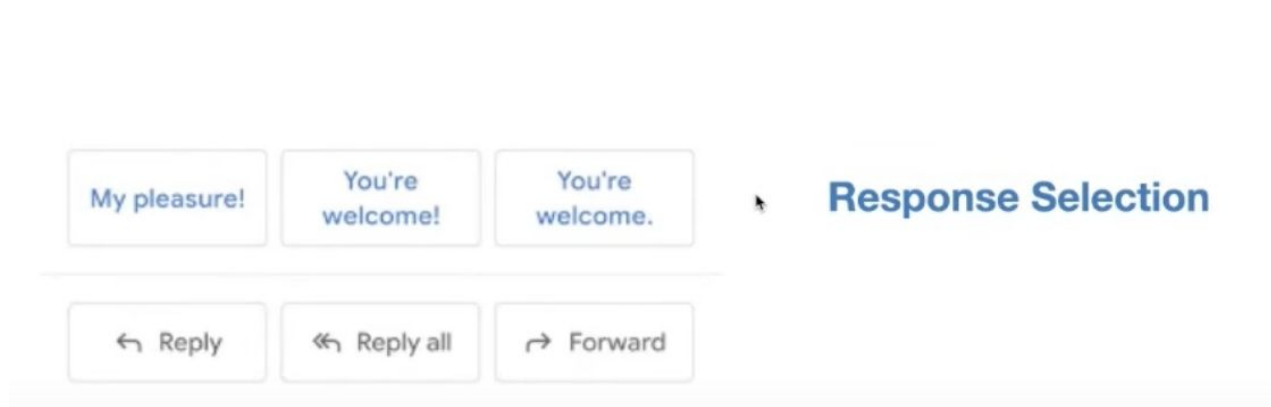
Natural Language Processing

- analyzing, understanding and generating human language
- used to create ways to interact with computer systems using natural human languages instead of computer languages (in both written and spoken forms)

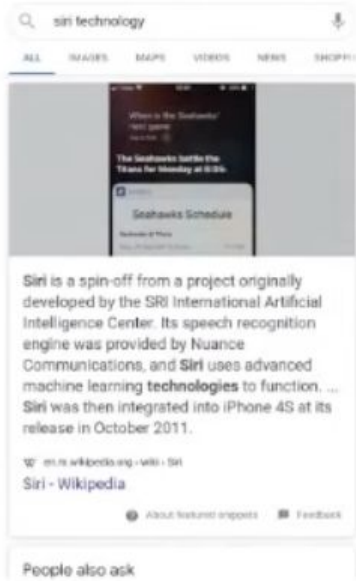
Text Generation



Auto Complete



Text Summarization - Highlighting based on Question/Answering



Text Summarization



Siri is a spin-off from a project originally developed by the SRI International Artificial Intelligence Center. Its speech recognition engine was provided by Nuance Communications, and Siri uses advanced machine learning technologies to function. Its original American, British, and Australian voice actors recorded their respective voices around 2005, unaware of recordings' eventual usage in Siri. The voice assistant was released as an app for iOS in February 2010, and it was acquired by Apple two months later. Siri was then integrated into iPhone 4S at its release in October 2011. At that time, the separate app was also removed from the iOS App

Question Answering

Machine translation

DETECT LANGUAGE

FRENCH

SPANISH

ENGLISH



FRENCH

ENGLISH

HUNGARIAN



Bonjour ami, je voudrais vous inviter à mon mariage le 20 août



62 / 5000



Kedves barátom, szeretnék meghívni az esküvőmre augusztus 20-án



Automatic Speech Recognition - Speech-to-Text-to-Speech



amazon alexa

Chatbots and Sentiment Analysis

Hi there, I'd like to book a city tour for two people.

Hi! 🙌 Thank you for contacting us. Let's plan your city tour together.

Specify date

When would you like to schedule your city tour?

Today

Monday

Tuesday

Monday suits me best!



Debate in NLP

How should language
analysis (computational
linguistics) be done?

Linguistic approach

vs

Statistical approach

— — —

Try to model and understand the underlying mechanism

- Incorporating structure
- Rely on grammar rules and syntactic analysis

Less flexible, no middle values

Use lots of existing data and statistics to predict the output

- No need to understanding the underlying mechanism
- Don't use structures and abstractions, because the assumptions they are based on can be wrong

More flexible, handled errors and missing data better

Chomsky

vs

Norvig

— — —

Noam Chomsky

- MIT emeritus professor
- the father of modern linguistics
- one of the founders of cognitive science

Peter Norvig

- Director of Research at Google

References

— — —

- [Huggingface conference video - gentle introduction to transformers](#)
- [Fast.ai - Code-First intro into NLP](#)
- [Norvig vs Chomsky](#)