

M705: Natural Language Processing (How Siri, Google Translate, Alexa work)

Instructor: David Morley

Course Date: TBD

Course Purpose

Throughout this course students will get an introduction into the field of Natural Language Processing and learn how computers can be made to understand language. The goal of the course is to introduce students to one of the simple yet effective ways to encode words (the word vector model) and give a general idea of how many modern day question answering services function.

Course Outline

- 1) Introduction (5 min)
- 2) Background (10 min)
- 3) Bag of Words/WordNet (10 min)
- 4) Word2Vec Model (10 min)
- 5) Google Translate/Applications (10 min)
- 6) Questions (5 min)

Conclusion

Overall this course should give student's a great introduction into some of the key ideas in the field of Natural Language Process-

ing. Although neural networks will not be covered in this course, it may be helpful for some students to have background in this area when applications of the word2vec model are discussed. For this introduction we recognize the series by the youtube channel 3Blue1Brown. A second part to this course will also be offered where students will get the opportunity to directly apply some of the concepts they have learned in Python through google colab notebooks.