

Getting started with NLP using Python

Overview:

Training a computer to read and write like humans do is an interesting field of Artificial Intelligence. In this workshop, you will learn how to deal with textual data, techniques to derive insights from them, how to engineer textual data and use it to solve prediction tasks using machine learning. With hands-on training, you will be well-equipped with the tools and techniques which are essential to solve NLP tasks by the end of the workshop.

(Proposed) Date: 8th September to 29th September

Target Audience: Someone who has taken the Python and Data Science Course would be ideal.

(Knowledge of Python is required. Data Science is preferred.)

Course Outline:

8th Sept	<p>Introduction to NLP (10 mins)</p> <p>Applications of NLP (10 mins)</p> <p>Text Wrangling and Pre-processing (60 mins)</p> <ul style="list-style-type: none">• Tokenization• Casing• Stop words Removal• Stemming• Lemmatization• Noise Removal• HTML Tags• Contractions• Special and Accented Characters• Identifying Lexical Categories (POS Tags)• Information Extraction from Texts (Named Entity Recognition)• Visualizations in Text Analytics<ul style="list-style-type: none">○ Bar Charts○ Time Series○ Word Clouds <p>Remaining Time (10 mins) will be utilized in Q&A</p>
15th Sept	<p>Feature Engineering for Texts</p> <ul style="list-style-type: none">• Bag of Words (30 mins)• TF-IDF• N-Grams• Document Similarity (20 mins)• Word Embeddings (30 mins)<ul style="list-style-type: none">○ Word2Vec○ GloVe <p>Remaining Time (10 mins) will be utilized in Q&A</p>
22nd Sept	<p>Exploring Python Libraries (10 mins)</p> <ul style="list-style-type: none">• NLTK• Spacy• TextBlob• Gensim• CoreNLP

	<ul style="list-style-type: none"> ● Hugging Face <p>NLP Use-Cases</p> <ul style="list-style-type: none"> ● Topic Modelling (35 mins) ● Sentiment Analysis (35 mins) <p>Remaining Time (10 mins) will be utilized in Q&A</p>
29th Sept	<ul style="list-style-type: none"> ● Text Classification using Machine Learning and NLP (60 mins) ● What's Next? (10 mins) ● Q&A (20 mins)