**Description**

Human language is astoundingly complex and diverse. When we write, we often misspell or abbreviate words, or omit punctuation. There is a lot of unstructured data around us. Natural language processing helps computers communicate with humans in their own language and scales other language-related tasks. NLP makes it possible for computers to read text, interpret it, measure sentiment and determine which parts are important.

Understanding this will enable you to build the core component of any conversational chatbot. In this NLP application we will create the core engine of a chat bot. We will learn text classification using the techniques of natural language processing by using the nltk library.

### Project template outcomes

Introduction to Natural Language Processing with python

* Importance of NLP applications
* Introduction to NLTK text classification
* Preprocessing textual data
* Nlp text classification - Tokenization
* Nlp text classification - Removing Stopwords
* Nlp text classification - PoS (Part of Speech) Tagging
* Nlp text classification - Lemmatization
* Nlp text classification - Stemming
* Create generic function to preprocess textual data using all techniques learnt
* Bag of Words
* Nlp chatbot application - understanding the data
* Parsing a document
* Preparing data for machine learning text classification models
* Decision tree classifier
* Naive Bayes Classifier
* Creating a nlp chatbot engine function which can be called by any UI