

## Assignment

- Title: Chatbot
- Problem Statement:  
To learn to implement an elementary chatbot
- Outcomes:  
Students will be able to understand the basics of NLP and implement elementary chatbot
- S/W & H/W requirements:
  - OS Ubuntu / Fedora
  - Python libraries
- Theory:

Chatbot is a software application used to conduct an online chat conversation, providing direct contact with a live human ~~agent~~ agent.

Chatbots are used in dialog systems for various purposes including customer service information gathering, etc. While some chatbot applications use extensive word classification processes, NLP and sophisticated AI, others simply scan for general keywords & generate responses using common phrases obtained from associated library or db.

We use NLP for building our chatbot

Different steps involved are

- 1.) Loading the data
- 2.) Cleaning the data
- 3.) Model training
- 4.) Taking input from user and providing response.

### ① Loading the data:

The dataset used contains collection of words/sentences grounded accordingly to intent in json file

### ② Cleaning the data:

For training we need to clean this data by performing normalization, tokenization & lemmatization

- Normalization in NLP is the process of converting a word into its canonical form
- Two popular technique are stemming and lemmatization



### ③ Model Training:

We could use the cleaned the data to apply the classifying techniques

### ④ Providing response:

To provide a response we take input from user clean it and then pass to the model to classify it. We then choose any random response from that group and provide result back

- Conclusion:

We have successfully implemented an elementary chatbot