DATS 6312 - Project Proposal on Chatbot for Intent Recognition

Team Members:

1. Adina Dingankar
2. Rehapriadarsini Manikandasamy
3. Venkata Gangadhar Naveen Palaka

Project Description:

The focus of this project is to build a Chatbot for Intent Recognition using LSTM and Transformer algorithms like BERT, Distilled BERT. The purpose of the Chatbot is to recognize the intent of the user input and give the response back to the user on the basis of the intent. This application is widely used in customer service departments and in Sales and Marketing department sectors. The data modelling will be interfaced through a UI using Tkinter and the pipeline will be integrated using AWS & GCP.

The dataset is a json file which is referenced from Few Shot Detection intent directory and is custom built by developing 181 intents, it has 868 rows which is inclusive of patterns and tags and responses attributes. As per the rubric of few shot detection for intents dataset our data relates to the out of domain scope. The different techniques which will be used for the text conversion are Bag of Words, TF-IDF, Word2Vec and Glove. BERT will be implemented by using two layer fully connected network using KERAS to embed the text and Distilled BERT will be used to embed the text and modelling will be implemented using Logistic Regression. In addition to, In LSTM model building text embedding is performed using Glove.6B.50D and pretrained LSTM model. The packages and libraries used for the project are PyTorch, Tensorflow2.0, NLTK, NVIDIA gpu (core 8), BERT, BERT-for-TF2.

Project Schedule:

DEADLINES	TASKS
11/15/2021	Proposal
11/18/2021	Dataset Building and Customization
11/22/2021	LSTM Model Building
11/26/2021	Transformers: BERT
11/29/2021	Transformers: Distilled BERT
12/05/2021	Chatbot Implementation
12/08/2021	Project Documentation

Dataset Reference:

https://arxiv.org/abs/1805.10190
https://github.com/sonos/nlu-benchmark/tree/master/2017-06-custom-intent-engines
https://github.com/huggingface/transformers

Group GitHub:

https://github.com/Rehamanikandan/Final-Project-Group6