DATS 6203 - Project Proposal on Chatbot for Intent Recognition

Team Members:

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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 flask and Google Dialog flow/PyQT5 and the pipeline will be integrated using Google Cloud Platform's Compute Engine.

The dataset is a json file which is referenced from an article named 'Snips Voice Platform: an embedded Spoken Language Understanding system for private-by-design voice interfaces', Kaggle and is custom built using 7 different labels i.e., intent. 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