PROJECT REPORT

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Assignment Title: Emotion Recognition In Conversations

Introduction

Multimodal EmotionLines Dataset (MELD) has been created by enhancing and extending EmotionLines dataset. MELD contains the same dialogue instances available in EmotionLines, but it also encompasses audio and visual modality along with text. MELD has more than 1400 dialogues and 13000 utterances from Friends TV series. Multiple speakers participated in the dialogues. Each utterance in a dialogue has been labeled by any of these seven emotions -- Anger, Disgust, Sadness, Joy, Neutral, Surprise and Fear. MELD also has sentiment (positive, negative and neutral) annotation for each utterance.

Problem Statement : Predict emotion for each utterances in conversations

Data source : https://github.com/declare-lab/MELD

Use of Machine learning

Here I have used Deep learning to solve this problem basically conv1d and lstm are used.

Loss : categorical_crossentropy

Different Approaches

1. CNN with Maxpooling, dropout and BatchNormalization
2. CNN with dropout and BatchNormalization without Maxpooling
3. Models with multiple inputs in CNN
4. CNN with 2 LSTM layer
5. CNN with 1 LSTM layer **(BEST MODEL)**
6. LSTM with dropout
7. LSTM with less parameters
8. BiLSTM and LSTM

In all the above approaches I have used embedding layer with input matrix contain glove vectors of 300 dimension for every word.

Inference Modelling :

1. go to this link https://github.com/ankuyadav17/EMOTION-PREDICTION-

2. please download final_meld.ipynb and open it on google colab

3. download all pickle file and weights_email.h5 file also

4. Put all the files in the same folder.

5. Take your test data in .csv file with column Utterance ex:- test_data = pd.read_csv('MELD-master/data/MELD/test_sent_emo.csv')

6. Run the final function in the final_meld.ipynb file with parameter test_data

Future scope :

1. We can use attention models

2. Pretrined BERT model can be used

3. we can do better hyper parameter tuning and better network architectures.