

Emotional Messenger

Using Affective computing to create a Messenger capable of conveying underlying emotion

01. Introduction

Our project will combine facial and textual recognition models of emotion recognition to analyze a text and convert it into its emotion recognised speech. Generally, a tone of the text we write is lagging emotions, we will try to combine facial expressions with the typed text to understand a particular emotion that is depicted in the text and voice out the text using the recognised emotion.



02. Objective

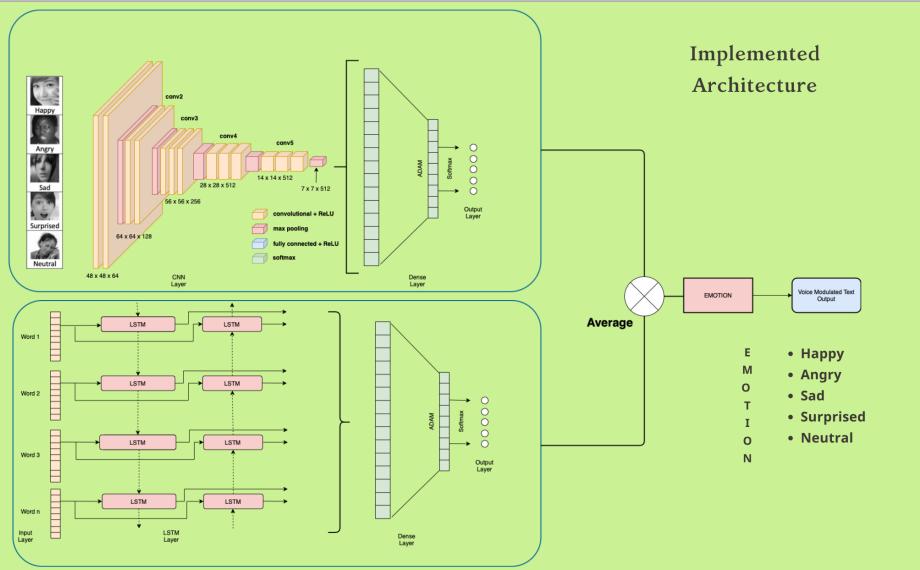
Emotion detection using Image data: We will be using Convolution Neural Network to detect the embedded emotion behind an image and try to extract corresponding features for specific emotion data

Emotion detection using Text data: We are planning to use supervised machine learning models like SVM or neural networks.

Ensemble both image and text data: Multimodal model of image and text will be our final approach for the output detection using weighted input from both the models described earlier and detecting the emotion using output of previous models as features for the Neural Network.

03. Methodology

We are training two different models here, first model is CNN which is trained for facial emotion detection and other is LSTM incorporated with Glove to find emotion in text, results from both models will be averaged out for final result.



04. DataSet

We have used two different dataset for training Facial detection and Image detection model.



Twitter Dataset for Text Recognition

tweet_id	sentiment	author	content
1956967341	empty	xoshayzers	@tiffanylue i know i was listenin to bad habi...
1956967666	sadness	wannamama	Layin n bed with a headache ughhhh...waitin o...
1956967696	sadness	coolfunky	Funeral ceremony...gloomy friday...

05. Challenges

Changing the tone of the voice output is challenging since every word needs to be recorded in various emotions and then configured for mapping. Accuracy of facial recognition was 73% and could be improved. There could be a mismatch between textual and facial data in real time that would have gone unnoticed and we will be taking up this challenge as a future work.

05. Results/Findings



Facial expression :
Typed Text : Sunny Weather Makes my happy



06. Conclusion

We believe our project might be of great help that would provide an actual tone to the texts in real time, especially for people with visibility disabilities. It would be pretty useful in general while texting when we are not able to understand the tone of the texts. All in all, we found it to be a fun experiment to understand the depth of emotions in textual and facial forms. Model that we have built give moderate accuracy and that will shift the tone giving mixed features.

