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Classification of Anxiety in Human's Using Convolution Neural Network

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***Abstract*— As already known, over the past decennium, mental health issues have become extremely common. The curve has been increasing exponentially over the past few years. In this fast-paced world, these problems are neglected, and they have become very common among the masses, which is increasing suicidal and self-harming thoughts. This paperwill have a huge advantage as getting a test from this paper won't require an electrocardiogram (ECG) and electroencephalogram (EEG). This paper attempts to predict the psychological problems that occur. Further the occurrence of anxiety, depression, and other mental problems are predicted by mainly using three methods. Face emotion detection using a convolution neural network and how the strength of emotion makes our facial features change. FER- 2013 database has been applied, speech emotion recognition where spectrogram is used and convolution neural network which consists mainly has three convolution layers and the fullyconnected layer to extract facial features and DASS-42 tool for the questionnaire series.**

Keywords—face emotion recognition, speech emotion recognition, dass-42, and convolution neural network (CNN). haar- cascade.

I. INTRODUCTION

In this Modern era, the lifestyles and ways of living are causing different health problems which are given attention but the ones left behind and more problematic are the psychological health problems like stress, anxiety, and depression which mostly psychiatrists assess through questionnaires, but most people suffering from this won't open up, so the Face and Speech factor will be added. Emotions for humans are just the mental state of their feelings which arise consciously as well as unconsciously.

Over the past few decades, anxiety or any other mental health issues have been rising the curve is increasing exponentially as a result of these self-harming thoughts and suicidal rates are rising. Upgradation of our lifestyles also has somewhat of an impact on our mental health fewerfriends and family time is also an important factor. Everyoneexperiences stress and anxiety. Anxiety isn't something that is fun to have it is something that users suffer or haveendured before.

Anxiety has a negative impact which keeps the attention of individuals concentrated on negative emotions. Automatic detection of anxiety will favor many applications in thefields, including human and computer interaction, office,workload distribution, campus, health monitoring, unrestricted daily life conditions, and also clinical anxiety observation programs.

II. RESEARCH GAP AND MOTIVATION

The people affected by the issues which we have mentioned aren't that vocal about this so the higher authorities from their work or schools and colleges should look into this matter people are affected by this at least a few times throughout their life the age gap from 18 to 24 years are the ones who are the most affected from any other age gap.

The research done in this area for people affected due to these mental health issues is not many also the research done has concentrated on only one main model which has either face or speech emotion detection also there is some research done based on only the DASS-42 questionnaire after collecting data from various organizations. Also, the physical test available includes the use of EEG or ECG which makes it more tiring and expensive for people to go out and get tested for this. Here we try bringing all these individual models which have their importance together and combine them for betterment this doesn't include EEC or ECG also itincreases the overall accuracy of our projec.

III. RELATED WORK

The existing projects on this topic try to cover it using very limited means, which are:

- Face Emotion using ML
- Speech emotion Detection
- Manual DASS-42 Questionnaire
- ECG or EEG
- ML Chatbot

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110

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