HUMAN MOOD ANALYSIS USING DEEP LEARNING

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ABSTRACT:

Understanding the facial expressions of a face is Easy in now a day with the help of deep learning technology. In this project we are matching the facial expressions with corresponding emoji and avatars and at the same time we will predict the mood of person with the help of deep learning model. We are using Deep learning technology, Open CV, HTML and CSS for website designing.

I. INTRODUCTION:

Person to person communication can be strong only when a person expresses his feeling perfectly. If it is not work properly then things go in another way. Today Everyone is in online and they are communicating with another person with their convenient way such as chatting, video calls, Mails etc..Each and Every one aim is only one that is communication with others. We think that communication can be done better if it is in the form of Visual format. So that person can easily understand other person mood in the less span.

In this project we mainly focus on the understanding the face expression of a person i.e. how his mood is at that movement. Humans having lot of feelings such as Angry, Happiness, Normal, Crying, Fear etc..It can be varies to situation to situation. At Each situation Person expresses his genuine feelings so that human can reduce his stress and overcome his stress.Deep learning is a derivative of machine learning, which applies different architectures of neural networks to deliver diverse missions. Different genres of learning are used for tasks with distinct objectives; each learning category has its own applications. In general, supervised learning is used for classification and regression related tasks. Face recognition is a biometric technique which has wide applications. It quantifies images first, and then compares the features of these image data which attained from images to the information stored in the database. The main application this technique is facial expression classification.

A convolution is the simple application of a filter to an input that results in activation. Repeated application of the same filter to input results in a map of activations called a feature map, indicating the locations and strength of a detected feature in an input, such as an image. The innovation of convolution neural networks is the ability to automatically learn a large number of filters in parallel specific to a training dataset under the constraints of a specific predictive modeling problem, such as image classification. The result is highly specific features that can be detected anywhere on input images.

II.LITERATURE SURVEY:

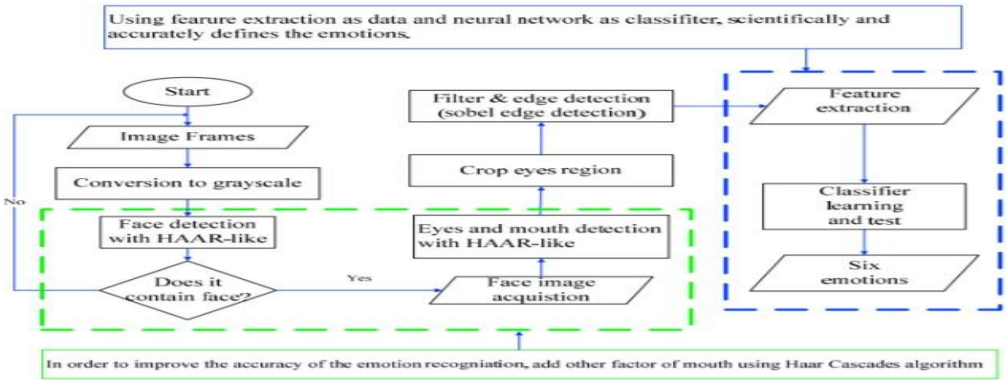
Facial Expressions detection proposed by Adam Anderson who is the Associate professor of human development in Cornell's College of Human Ecology. Anderson and co-authors described these ideas in the paper, "optical origins of opposing facial expression Actions," published in the March issue of Psychological Science. Later, It come into different application (Image locking/Unlocking, Anomaly detection etc.) with different professors, innovators, industrialists etc.

III.EXISISTING SYSTEM:

The current systems are mostly based on neural networks which need require large number of datasets for computation. Designing of these neural networks are mathematically complex in nature. The processing and testing time if these networks consume a lot of time. Though they depict quite efficient results for the static images, their real time processing is low and all these applications are designed in the form of app.

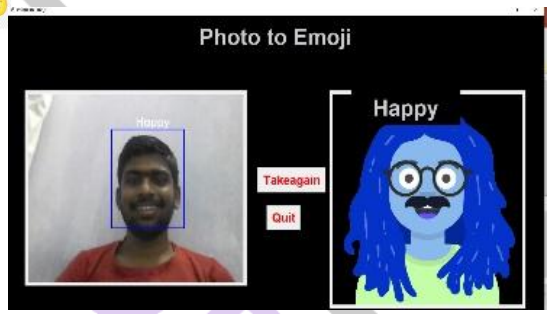
IV.PROPOSED SYSTEM:

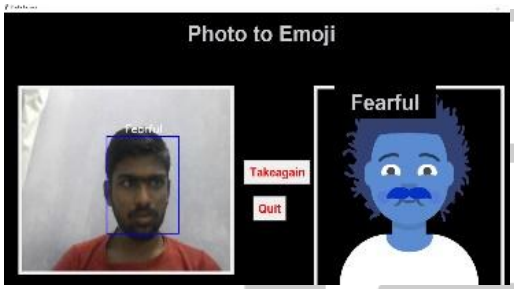
In this deep learning project, we have built a convolution neural network to recognize facial emotions. We are using FER2013 dataset to train our model. Then we are mapping those emotions with the corresponding emojis or avatars. Using Open CV's haar cascade xml we are getting the bounding box of the faces in the webcam. Then we feed these boxes to the trained model for classification. The model takes a image and find in which mood person is in and find the corresponding Avatar which it suits to and display in the website itself. If user needs to take another Avatar with the help of take again button which is provided in website window and he can quit from the application by pressing a Quit button in website.



V.RESULT:

When user click on the button camera will open using Open CV Python Module and deep learning model will predict in which mood in user in and display his emotion on the window and at the same time it will compares the emotion with avatar and display right side of the face as shown below.





VI.CONCLUSION:

In this project, We used Conventional Neural Network to train the deep learning model with large dataset. The Features of the expressions of the detected face will be extracted using data set of online sources and we maintained 50 epochs for increasing the accuracy of a model. For every snap shot ,Model will predict valid avatar in the mill seconds of time and User can easily interact with this web application and he can able to access like normal website. There are many existing face-detecting neural networks that have good efficiency but their implementation may be difficult in some cases. Through our approach of using APIs instead of neural networks, we can make the implementation convenient.

ACKNOWLEDGMENT:

We would like to thank our guide Mr.D.Krishna and Mrs.Soppari Kavitha for their continuous support and guidance. Due to their guidance, we completed our project successfully. Also, we are extremely grateful to Dr.M.V.VIJAYA SARADHI, Head of the Department of Computer Science and Engineering, Ace Engineering College for his support and invaluable time.

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