EMPLOYEE EMOTION DETECTION USING CNN ALGORITHM

[1]Dr. M. Senthil, [2]G. Yamini, [3]M. Divya Sneha, [4]V. Rajya Lakshmi, [5]D. Harsha Vardhan

[1]Professor, Department of Computer Science and Engineering, QIS college of Engineering and Technology, Ongole, Andhra Pradesh, India

[2,3,4,5]Student, Department of Computer Science and Engineering, QIS college of Engineering and Technology , Ongole, Andhra Pradesh, India

Abstract: The most common way of distinguishing human inclination is called emotion detection. The odds are in the event that somebody showed you an image of an individual and requested that you surmise their sentiments, you would have the option to do it pretty well. However, imagine a scenario where PCs could do likewise. Consider the possibility that it was significantly more intelligent than you. Identifying and perceiving human inclination is a major test in PC vision and computerized reasoning. Feelings are a major piece of human correspondence. The greater part of the correspondence happens through feeling. There are a few feelings that are all inclusive to all individuals like angry, happy, sad, disgust, fear, surprise neutral and so on. The main aim of our project is to develop a system which can detect human emotion as well as it gives some quotes to the person which help them to shift their mood if they are in a sad or worst mood.

Example:
To be in a company, the employee should be more attentive and curious about their work. If that employee is being stressed under his/her personal life, then that would possess a great loss to the work. Through our model you can recognize employee's feelings every day and motivate them with a quote based on their mood which is having a great impact on their work.

Index Terms - Input Image, Face Detection, Feature extraction, Face Emotion classification, Quotes display

I. INTRODUCTION

Facial feelings are significant elements in human correspondence that assistance to comprehend the goals of others. As a rule, individuals induce the close to home condition of others, like happiness, pity and outrage, utilizing looks and vocal tones. Looks are one of the fundamental data diverts in relational correspondence. Thus, it is normal that facial feeling research has acquired a ton of consideration throughout the last 10 years with applications in perceptual and mental sciences. Interest in programmed Emotion Recognition has likewise been expanding as of late with the fast advancement of AI (simulated intelligence) procedures. They are presently utilized in numerous applications and their openness to people is expanding. To further develop Human PC Collaboration and make it more regular, machines should be furnished with the capacity to figure out the general climate, particularly the goals of people. Machines can catch their current circumstance state through cameras and sensors. Lately, Deep Learning calculations have demonstrated to find true success in catching climate states. Feeling discovery is vital for machines to all the more likely serve their motivation since they convey data about the inward condition of people. A machine can utilize a succession of facial pictures with DL procedures to decide human feelings.

Emotion Recognition regularly has four stages. The first is to recognize a face in a picture and draw a square shape around it and the following stage is to distinguish landmarks in this face locale. The third step is separating spatial and temporal highlights from the facial parts. The last step is to utilize a Feature Extraction (FE) classifier and produce the acknowledgment results utilizing the extricated highlights. Following figure shows the FER methodology for an information picture where a face locale and facial landmarks are recognized. Facial landmarks are outwardly notable focuses like the finish of a nose furthermore, the finishes of eyebrows and the mouth as displayed in below. The pairwise places of two landmarks focuses on features. The spatial and temporal elements are extricated from the face and the appearance is resolved in view of one of the facial classifications utilizing pattern classifiers.

FIGURE 1: Internal working of our system

1)face detection
2)feature extraction
3)emotion classification
4)quotes display based emotion

II. EXISTING SYSTEM

In the existing system we are having only different Face Emotion Recognition Systems using some prominent methods or algorithms like LSTM, CNN, SVM, CNN-LSTM and different methods.
With the face emotion detection, we can do a lot of real time use cases, but the existing papers only coded for emotion detection.
If any system that was introduced as a technology that should be useful for the human lifestyle advancement.

III. PROPOSED SYSTEM

We propose a system that can be useful not only for our ug project but in real time scenario.
An employ should be cheerful to give his best work to his/her organisation. And daily motivation quotes are the best therapy to shift their mood. Our system detects the emotion of employ and display quotes that may suited to shift their sad mood to a joy mood.
This is a model which is useful in real time working environment and This method also focuses on an efficient work model.

IV. IMPLEMENTATION

Our system can be implemented as the following diagram by
1)detecting the face
2)detecting emotion by extracting the features of image
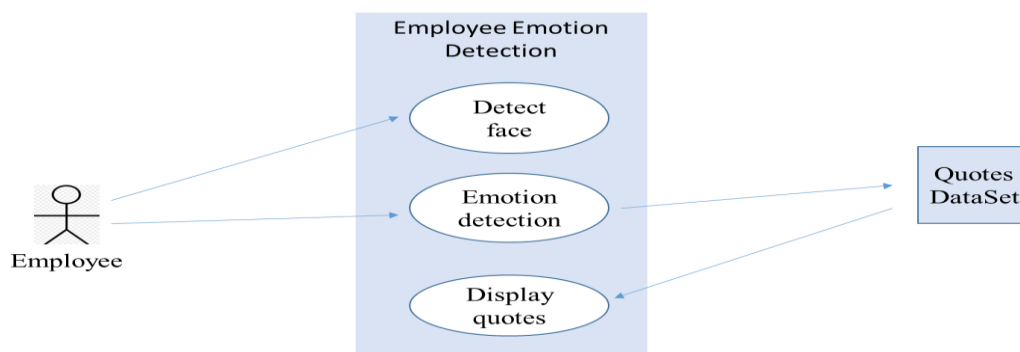3)quote is displayed based on the emotion that was detected

FIGURE 2: Use Case Diagram

V. MODELLING

The below diagram shows that our system which takes an image as an input then find out the human face in it and categorize the emotion of that person. Based on the emotion that is detected it shows, respective motivational quotes who may bring some activeness to their brains.
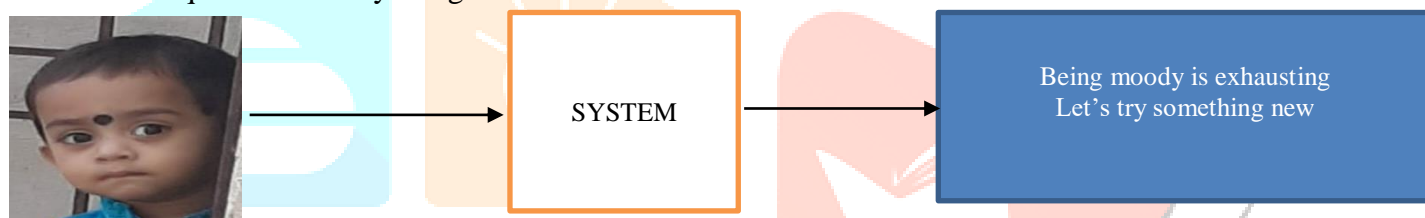

Figure 3: visual representation of employee emotion detection

VI. RESULTS

After making our model, we check and validate for multiple times and it displaying quotes by identifying the emotions of the input image captured from the webcam but we thought that, in the phase of emotion recognition in the current building model, an open source library "DeepFace" is an efficient mechanism than our code that was built by research group at Facebook. Since we are wanting an efficient real time working environment, we built one system through training datasets and another by DeepFace library for emotion recognition part (which is the sub part of total code).

VII. CONCLUSION

We focused on a system which provides a real time working environment. We also focusing on giving an efficient system. This project has been developed for organizations in improving their employees efficient work by recognizing their emotions and stimulates them through our proposed system, which helps them to concentrate towards their work. For this project we also referred to some psychological study in open source.

VIII. REFERENCES

[1]https://opencv.org/

[2]https://www.tutorialspoint.com/dip/

[3]S. Pandey, S. Handoo and Yogesh, "facial emotion recognition using deep learning," 2022

[4]Facial emotion recognition using light field images with deep attention-based on LSTM

[5]Natisha Raut "Facial Emotion Recognition Using Machine Learning (2018)

[6]Vineetha "Real Time Emotion Detection".

[7]Research Group at Facebook

[8]misbah4064 "facial_expressions"Analyticsvidhya," Image classification Using CNN",2021

[9]Bimbramayank," Real Time Facial Expressions",2020

[10]   researchgate.net/post/I-want-to-conduct-research-on-quotations-and-its-impact-on-your-emotions-Does-reading-quotations-makes-you-feel-good-suggest-me-research-method

[11] fastcompany.com/3051432/why-inspirational-quotes-motivate-us

[12]ncbi.nlm.nih.gov/pmc/articles/PMC6904374/

[13] Deepesh Lekhak "A Facial Expression Recognition System using Cnn",2017