

MES COLLEGE OF ENGINEERING, KUTTIPPURAM
DEPARTMENT OF COMPUTER APPLICATIONS
20MCA245 – MINI PROJECT

PRO FORMA FOR THE APPROVAL OF THE THIRD SEMESTER MINI PROJECT

(Note: All entries of the pro forma for approval should be filled up with appropriate and complete information. Incomplete Pro forma of approval in any respect will be rejected.)

Mini Project Proposal No : _____
(Filled by the Department)

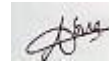
Academic Year : 2021-2022
Year of Admission : 2020

1. Title of the Project : Emotion Detection using Deep Learning
2. Name of the Guide : Balachandran kp
3. Number of the Student: MES20MCA-2011
4. Student Details (in BLOCK LETTERS)

Name ASNA AV

Roll Number 11

Signature



Date:01/12/2021

Approval Status : Approved / Not Approved ____

Signature of
Committee Members

Comments of The Mini Project Guide

Dated Signature

Initial Submission :

First Review :

Second Review :

Comments of The Project Coordinator

Dated Signature

Initial Submission:

First Review

Second Review

Final Comments :

Dated Signature of HOD

EMOTION DETECTION USING DEEP LEARNING

ASNA AV

Introduction:

Facial expression plays a crucial role in the analysis of emotions. Facial expression recognition involves the classification of various emotions like neutral, sad, anger, etc. This application is gaining importance in day-to-day life. There are different methods used for recognizing the emotions like machine learning and Artificial Intelligence techniques. Deep learning and image classification methods are used for recognizing expressions and classify the expressions according to the images. Various datasets are used for training expression recognition models. In this project, we are using a Convolutional neural network algorithm.

Objectives:

The main objective of this work is to access users face from a real time environment and identify his current mood by analysing the facial emotion. The user will be prompted to capture a picture and after the image is captured, it will be preprocessed and the features extracted will be stored into the image database. These features obtained will then be sent to the trained neural network, which will predict features and use them to detect the emotion and obtain the results.

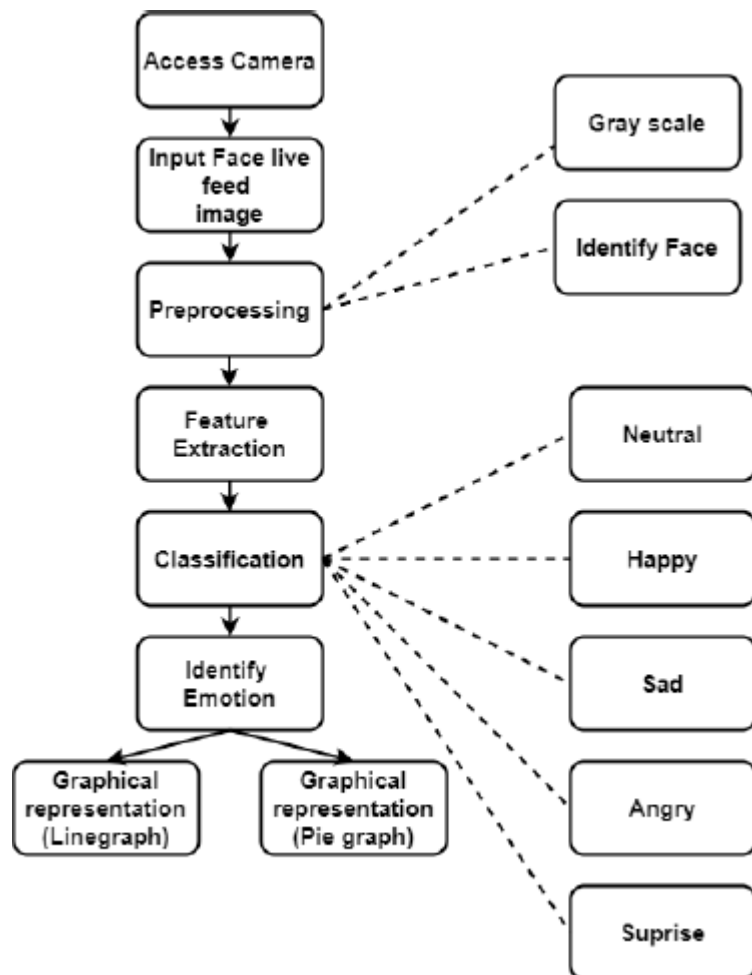
Problem Definition:

The interaction between humans and computers will be more natural if computers are able to grasp and acknowledge to human non-verbal communication such as emotions. Although several approaches have been put forth to recognize human emotions based on facial expressions or speech or textual data, it is necessary to enhance the accuracy and robustness of the emotion recognition system. The solution furnished in this project will not only detect the emotion, but also provide relevant recommendations based on the obtained results. Using real-time images of human faces, or pictures several emotions will be classified such as sadness, happiness, anger, fear, surprised, and neutral state. Detailed facial motions will be captured, and appropriate emotion will be detected by using deep learning algorithm such as CNN.

Basic functionalities

The Convolutional Neural Network (CNN) is a Deep Learning algorithm that can capture images, assign significance value (readable and discriminatory metrics) to the various aspects / elements in the image and are capable to discriminate one from the other. The previous processing required in the Convolutional Network is very trivial compared to other classification algorithms. While ancient filtering methods are hand-engineered, with adequate training, Convolutional Networks have the ability to study these filters / features.

Basic Architecture



Tools / Platform, Hardware and Software Requirements:

Hardware specification

- Processor : Intel Pentium core i3 and above
- Primary Memory:4GB RAM and above
- Hard disk 500 GB
- Camera: Laptop camera

Software specification

- Language: Python
- Front End: Python
- Back end: SQLite
- Dataset: Face emotion opensource dataset
- Algorithm: CNN
- IDE: Visual Studio Code
- OS: Windows/Linux