PROJECT UPDATE

FACIAL EMOTION DETECTION

**Problem statement:**

We are planning to implement our project to detect facial emotions from video which uses Open CV haarcascades algorithm on video for face detection, facial key features and input it to the Deep Learning model to detect the emotion from the video. We are planning to work on emotions like angry, disgust, happy, sad, surprise and neutral.

**TIMELINES:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Study | Coding | Result | Due |
| Dataset | Done | Done | Done | Oct-10 |
| Extracting facial features | Done | Done | Done | Oct-15 |
| Developing a Neural Network Model | Done | In Progress | - | Oct-23 |
| Experimenting with already available DeepFace for emotion recognition and calculating percentage of emotion. | Done | Done | Done | Oct-20 |
| Video input to the model and calculate percentage of emotions.  Removal of noise from the input and inputting video for facial recognition | In Progress | In Progress | In Progress | Nov 1-Nov 7 |
| Training and Plotting the accuracies, predictions and confusion matrix. | Done | In Progress | In Progress | Nov5-Nov10 |
| Error check and final code evaluation | In Progress | In Progress | In Progress | By Nov-15 |

Results:

1. **DataSet:**

**Sample training image imported**

**Graphical user interface, website

Description automatically generated**

DataLabels Histogram Plot:

Chart, histogram

Description automatically generated

Exporting the data required to csv files:

Graphical user interface, text, application

Description automatically generated

1. Facial feature extraction:

We used haarcascade algorithm to extract facial frontal-feature.

Reading an image:

Graphical user interface, application

Description automatically generated

Detecting Face in the picture using haarcascade, and drawing a bounding box around the face.

Graphical user interface, application

Description automatically generated

Getting amount of emotions:

Graphical user interface, application, chat or text message

Description automatically generated