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| S.No | Date | Work Done Today | Next Day Plan | Important things to Remember |
| 1 | 08/05 | Installing opencv python and requirements, plotting histograms of images. |  |  |
| 2 | 09/05 | Detection of human frontal and profile faces, eyes, mouth using different haar cascades. Experimenting with haar cascades and lbp cascades to predict person looking to his left. |  | Haar and lbp cascades do not predict profile faces in which person is looking to his left. |
| 3 | 10/05 | Learned github, crawled images from image-net and learned about fischer faces. |  |  |
| 4 | 11/05 | Crawling of images via link and via text files. Implementation of fischer face detection on CK+ dataset. | Improve accuracy for face detection. | The urllib package throws unicode error sometimes when crawling directly via a link, this error won't occur in case of text file url extraction. |
| 5 | 12/05 | Increased the accuracy of fischer face detection to 87% by increasing the dataset and combining some files for emotions. |  | contempt -> sadness  disgust -> anger |
| 6 | 13/05 | Tested different xml files generated for real test subject. Took the real camera feed of my emotions to evaluate model accuracy. |  |  |
| 7 | 14/05 | Holiday |  |  |
| 8 | 15/05 | Read about deep cnn, wrote a deep cnn based code and trained for 25 epochs. Got output training and test accuracies.  Accuracy – 72.81% for 25 epochs. | To train deep cnn for larger no. of epochs | Download emofbvp database,  digital ocean server training |
| 9 | 16/05 | Trained the deep cnn for 100 epochs. Deep cnn is found very good in predicting happiness emotion. Generated database of my own emotional facial expressions for proper evaluration. | To simultaneous-ly use fischer and deep cnn for predicting human emotions and evaluating accuracy. |  |
| 10 | 17/05 | Wrote 2 codes, 1 for reading images from a folder and other for reading input from a camera and predicting emotion simultaneously using fischer face prediction and deep learning convolutional neural network.  Tried to introduce some modifications to improve accuracy for code 1. | To test accuracy of input read from camera i.e. code 2 and improving the accuracy. |  |
| 11 | 18/05 | Compromised with emotion between anger and sadness and tested the code2 (getting camera feed) on other subjects directly with live feed from camera. Removed the bugs from code 2 to get it working correctly. | To test efficiency on demo videos generated from cctv cameras. |  |
| 12 | 19/05 | Tested the efficiency on two movie clips. The efficiency is found good, the predicted emotion even for profile view is good up to a large extent. However currently, we are relying heavily on haarcascades to detect faces which is the reason for major errors. We need to improve the face detection for target subjects. | To improve face detection accuracy for shortlisting target subjects in a test image. |  |
| 13 | 20/05 | Read about how to improve facial recognition accuracy. Standard PEP8 formatting of all codes developed till now, pushing into github and documentation about work done. |  |  |
| 14 | 21/05 | Holiday |  |  |
| 15 | 22/05 | Tried to improve the face recognition accuracy using upper body and full body detection haar cascades. But the improvement in accuracy was negligible. Increased the minimum face size size to be detected to 50x50. This excluded some minute errors. Increased the minNeighbours parameter in detectMultiScale to 10 for detecting better quality faces. Tested the model on another indian school video, the emotion detection accuracy was still good only there are problems with face recognition. | To test model on foreign school videos. | Haarcascades might be trained on western world people which may reduce its accuracy in predicting eastern world people. If face is not bright enough, then it will be hardly detected no matter the size or clarity or closeness to the camera. |
| 16 | 23/05 | Removed minor bugs from the code. Face detection working fine, multiple faces are being detected and emotion recognition can be easily applied. Errors reduced to minimal. Only one haar cascade found enough for face detection in many videos. Calculated frames per second for test videos, found around 5 to 6 fps on intel i5 processor with 4gb ram. Would work faster on server. | To evaluate the final efficiency by manually evaluating emotion for every face. |  |
| 17 | 24/05 | Final Documentation report for work done in emotion detection.  Installed Qt, started working on displaying images and video using Qt features. | To create a UI displaying images and taking user input for evaluated emotion and storing in txt file. |  |
| 18 | 25/05 | More work on Qt UI development.  Video display working fine. Image display working fine.  Made a demo video showing the working of emotion detection. | Need to integrate and run python script into Qt and get the output generated from it. |  |
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