

ABSTRACT

This project titled “Emotion Recognition for Real-Time Feedback” performs facial expression analysis in near real-time from a live webcam feed. It classifies human expressions into 8 different classes (Happy, Sad, Angry, Contempt, Disgust, Fear, Surprise, and Neutral). Facial detection is carried out to obtain facial expression using an in-built python library followed by training of Support Vector Machine model. To solve this multi-class problem, Support Vector Machine uses several tuning parameters such as kernels, gamma and regularization. This model is trained on the dataset which comprises of 10,708 images. SVM model obtained an accuracy of 78% against testing dataset when Sampling techniques were used to train the model. To further improve the accuracy, Ensembling techniques were used. The real time accuracy achieved is 67%.

Based on this project we have developed two working applications for obtaining real-time feedback. The first application detects the genre of the song with the help of facial expression of the end-user while he/she is listening to song. The other application interprets the category of news by reading the facial expression of the user. Both these applications give us genuine real-time feedback.