Abstract

Increasing and maintaining human productivity of different tasks in stressful environment is a challenge. Music is a vital mood controller and helps in improving the mood and state of the person which in turn will act as a catalyst to increase productivity. Continuous music play requires creating and managing personalized song playlist which is a time consuming task. It would be very helpful if the music player itself selects a song according to the current mood of the user. The mood of the user can be detected by a facial expression of the person. A facial expression detection system should address three major problems: detection of face from an image, facial feature extraction and facial expression classification[1]. The first stage is of face detection from an image for which various techniques used are model based face tracking which includes real-time face detection using edge orientation matching [2], Robust face detection using Hausdorff distance [3], weak classifier cascade which includes Viola and Jones algorithm [4], and Histograms of Oriented Gradients (HOG) descriptors. The next stage is to extract features from detected face. Two major approaches for feature extraction which use
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Gabor filters [Dennis Gabor] and Principle Component Analysis [Jolliffe]. The final stage is of image classification for mood detection, where various classifiers like BrownBoost [Freund, 2001], AdaBoost [Freund and Schapire, 1995] and Support Vector Machines (SVM) are available. The proposed system will use classic Histograms of Oriented Gradients (HOG) along with facial landmark detection technique; these detected features then passed through SVM classifier to predict the mood of the user. This predicted mood will stimulate the creation of playlist.

References

8. Histograms of Oriented Gradients for Human Detection Navnee Dalal And Bill Triggs INRIA Rhone-Alps,655 Avenue de l’ Europe, Montbonnot 38334, France
9. Porawat Visutsak Emotion Classification through Lower facial Expressions using Adaptive Support Vector Machines
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**Index Terms**

Computer Science  
Information Sciences

**Keywords**