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Music Therapy using Facial Recognition

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Abstract: *Music plays a very important role in human daily life. Everyone wants to listen to music to their individual taste, mostly based on their mood. Users always face the task of manually browsing music and creating a playlist based on their current mood. The proposed project is very efficient and generates a music playlist based on the current mood of users. Facial expressions are the best way of expressing the ongoing mood of the person. The objective of this project is to suggest songs for users based on their moods by capturing facial expressions. Facial expressions are captured through webcam and such expressions are fed into a learning algorithm that gives the most probable emotion. Once the emotion is recognized, the system suggests a playlist for that emotion, thus saving a lot of time for a user. Facial recognition is a system built to identify a person's face from an image or video. This technology has been around for decades, but its usage has become more noticeable, and accessible, in the past few years as it now powers innovative solutions, such as personal photo applications and secondary authentication for mobile devices. The emotion Recognition System analyzes an individual's facial expression. For example, if the corners of a person's mouth are raised, the machine might rule that the person is in a good mood, whereas a wrinkled nose suggests anger or disgust. Once the emotion is detected by CNN then the emotion is used by Spotify API and then the Spotify API generates a playlist according to the emotion of the user.*

Keywords: Face detection, Emotion recognition, Webcam, CNN classification, Spotify API, Music Playlist

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