ILLINOIS INSTITUTE OF TECHNOLOGY

CS 584: MACHINE LEARNING

Project Proposal

MUSIC RECOMMENDATION SYSTEM USING EMOTION RECOGNITION

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March 1, 2023

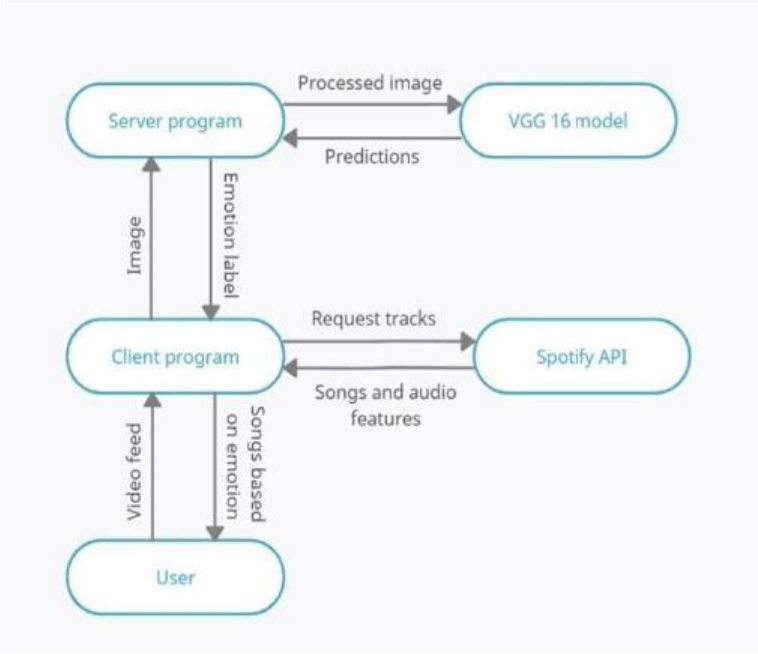
1 ABSTRACT

1.1 DESCRIPTION:

Facial expressions are frequently used to determine a person's mood. With the use of a webcam or other external device, recognizable facial traits can now be extracted as inputs thanks to modern technology. The acquired information is utilized to determine the mood, and depending on the determined mood, either a default playlist or songs from a customized playlist are played. This helps create a suitable playlist based on a person's emotional characteristics and eliminates the time-consuming and laborious effort of manually arranging music into various lists. So, the major goal of our suggested method is to identify human emotions in order to create music players that are based on those emotions.

1.2 PROPOSED MODEL:

Our technique focuses on Deep Neural Networks (DNN) to tackle the shortcomings of handcrafted features by directly learning the most relevant feature abstractions from data collected in an uncontrolled environment. Recently, DNNs have been a successful method for recognizing visual objects, estimating human poses, verifying faces, and many other tasks. DNNs can extract highly discriminative features from the data samples thanks to the availability of computer power and current enormous databases. The use of CNNs in tasks like picture recognition and classification has been demonstrated to be highly effective. CNNs are very good at cutting down on the number of parameters without sacrificing model quality. The suggested method uses the CNN model to recognize user facial expressions based on individual facial expressions. The song that best expresses the user's emotions will be played after the emotion has been identified.



1.3 SYSTEM IMPLEMENTATION:

The application seeks to provide operating system users with an additional hardware-free and dependable emotion-based music system. Those looking for music that is based on emotion and emotional behavior would benefit from the Emotion-based Music Program. It could aid in reducing the amount of time spent searching for music, decreasing the amount of time wasted on computing, and ultimately improving the system's accuracy and efficiency. The application meets the fundamental requirements of music listeners while leveraging technology to broaden the system's opportunities for user involvement. By employing a camera to capture the image, identifying the end-emotion, user's and recommending a personalized playlist from their account through a more sophisticated and interactive system, it makes the end-job users easier.

- Facial recognition can be used for authentication purposes.
- Could be implemented in Raspberry Pi as a feature of Smart Home.
- Can be used to determine the mood of physically challenged & mentally challenged people.
- Music classifier models can be developed.

1.4 REFERANCES:

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