Song Recommendation System

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ABSTRACT

We develop new approach for playing song automat Illy using facial emotion. Till Today there are many approaches which involve playing music manually using variable computing device or classifying based on a video features instead we proposed to change the manuals sorting and playing.

We have used a CNN algorithm for emotion detection.

Our motive is to reduce the computational time involved in obtaining the result and overall cost of the design system hence increasing the systems overall accuracy.

By using inbuilt camera facial expression are captured then feature extraction is performing on input phase images to detect emotion such as happy, anger, sad, surprise and neutral.

Automatically music playlist is generated by identifying the current emotion of the user music is one of the most energetic media it skillfully places with our emotion which swings our mood.

Now a day, people often prefer to listen to music based on their moods and interests. This work focuses on a system that suggests songs to the users, based on their state of mind. Conventional method of playing music depending upon the mood of a person requires human interaction

KEYWORDS:

Recommender System, Convolution Neural Network(CNN), Deep Learning, image processing, Artificial intelligence, Classification etc.

I. INTRODUCTION

Mood is a one of the most important part to make a good decision and everything you have to do.

In many previous research studies told that humans reply and react to music has a high impression on the activity of the human brain [01]. Song recommendation system is used to suggest or recommend songs based on mood [02].

Emotions have been categorized into many types and pattern recognition such as happy, neutral, sad, angry, surprise have been categorized using various emotion model such as Thayer's model, Russel's model [03-04].

The rhythm and the pitch of music are managed in Atlas of the brain that affects emotion and mood [05].

By Using the evolution of technology you can do anything anything you want nowadays emotion detection is considered the most important technology used in many application [06], such as image detection surveillance security smart card application.

We use facial expression to propose a recommended system for emotion recognition that can detect users emotion and suggest a list of appropriate song our project is to develop a system that detect the emotion of a person if we users emotion is negative then a certain playlist will be shown that includes the most related types of music[07-08], that will enhance his mood and if the emotion is positive a specific playlist will be suggested which contains different types of music that will affect the positive emotions facial emotion is performed using CNN which gives 95.15% of accuracy[09].

II. LITERATURE SURVEY

The architecture survey or review is a text of scholar paper for previous research paper which includes the current understanding along with some inventions as well, as theoretical and practical contribution to a particular topic.
The following are some literature survey which is based on different research paper that related to our own project music recommendation system using facial expressions.

Author [05] Yusuf yaslan et al proposed an emotion based music recommendation system that understand the user's emotions from signals obtained theory variable computing devices that are integrated with galvanic scheme response (GSR) and photo plethysmography (PPG) physically sensors in the paper emotions are basic part of human impressions they play a main role throughout life.

Author [15] Aurobind, v Iyer, viral pasad Karan Prajapati proposed a system 'Emo player' which is an Android based music application is and same as our project and the working is also similar.

Author [01] the paper proposed by Ramya Rama Nathan etal conveyed that intelligent music player ufting emotions are very basic part of human nature.

Author [08]CH radhika et al advice manual secretion of playlist and annotation of songs; following the current emotions al state of user as a Dabur intensive and time consuming task number of algorithms had been proposed to automate this manner forever this manner forever the prevailing algorithm or slow increase the overall cost of system by using additional hardware.
(egg. EEG, Structures, sensors and features muscles accuracy.

Author [09] The paper present on algorithm that automatically does the process of generating a playlist of audio based on facial expression of a persons for rendering salvage of time as well as Labour, invested in performing this process manually.

III. PROBLEM DEFINITION

Develop a system by using machine learning algorithm that present across platform music player, which recommends music based on the real time mood of the user through a web camera.

IV. PROPOSED SYSTEM OVERVIEW

This proposed system helpful to present interaction between the user and music player.
The purpose of system is to capture the face properly using in build camera

Captured image is fed to CNN which predicts the emotion then captured image is used to get a playlist of songs the main goal of the system is to provided music playlist automatically to change the user's mode which can be happy, sad, Angry, Natural and Surprised- music recommendation system based on facial recognition contains 4 modes
1) Real time capture.
In this mode the system is to capture face of user properly.
2) face recognition: in this model it will take the user space as input, the CNN is programmed to evaluate the features of user's image.
3) emotion detection: here extraction of the features of the user's image is done to detect the emotion and depending on the user's emotion.
5) music recommendation: song is suggested by the recommendation module to the user by mapping their emotions to the mood type of song.
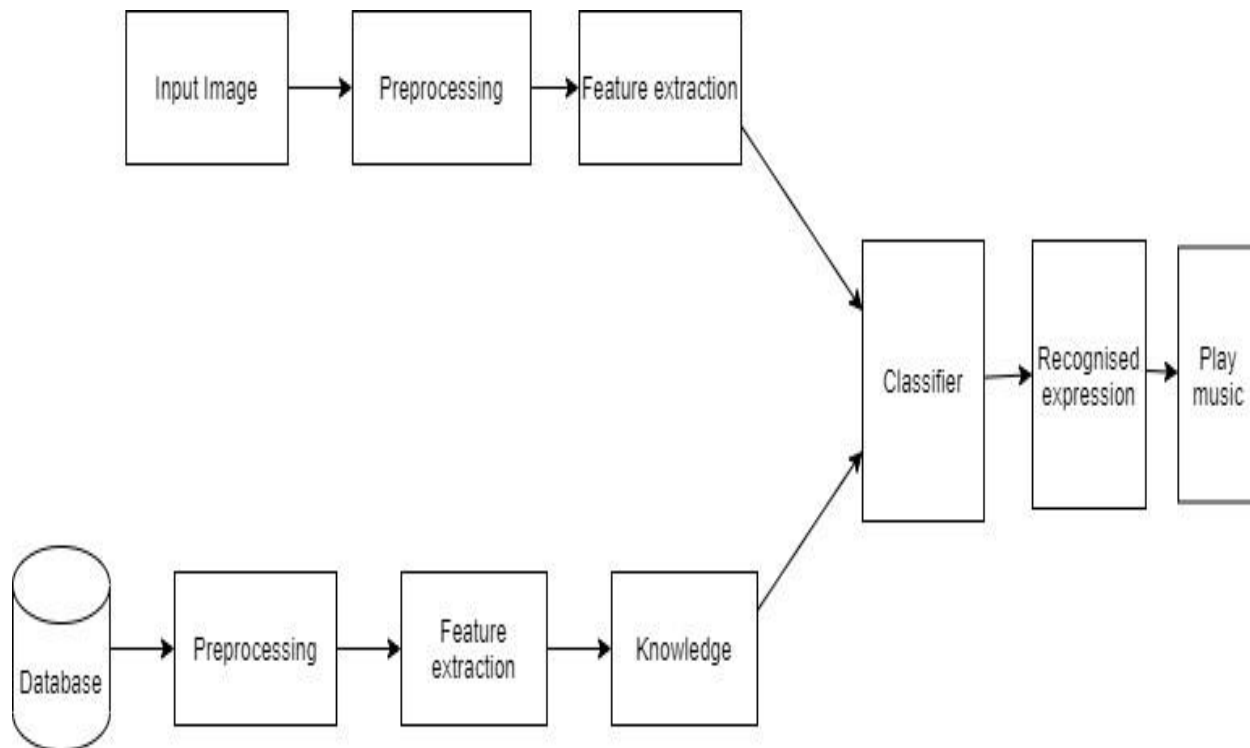
V. CONCLUSION

A thorough review of the literature tells that there are numerous approaches to execute Music Recommender System. A study of techniques proposed by former scientists and inventors was done. predicated on the findings, the objects of our system were fixed.As the power and advantages of AI- powered applications are trending, our project will be a state- of- the- art trending technology utilization. In this system, we give an overview of how music can affect the user's mood and how to choose the right music tracks to enhance the user's moods. The enforced system can determine the stoner's feelings. The feelings that the system can descry were happy, sad, angry, neutral, or surprised. After determining the stoner's emotion, the proposed system handed the stoner with a playlist that contains music matches that detected the mood. Processing a huge dataset is memory as well as CPU ferocious. This will make development more demanding and glamorous. The motive is to produce this operation in the cheapest possible way and also to produce it under a standardized device. Our music recommendation system grounded on facial emotion recognition will reduce the works of users in creating and managing playlists.

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