

Survey on Music Player by Detecting Facial Emotions

Hrishikesh Ravindra Vite, Shivani Raju Bhole, Heet Sureshbhai Hadiya, Mohammed Saqlain Patel

Department of Computer Engineering,
Dhole Patil College of Engineering,
Pune, MH, India

Abstract- Facial recognition has been recognized as an active research subject in the Computer Vision community. The job is to compile a frame for finding a facial expression that can examine a person's important external appearance. The proposed strategy uses person faces to distinguish that person's attitude and ultimately used the effect to play music that matched one's emotions. Initially, the framework accepts a person's face as information and then an additional cycle will continue. A face scan is performed. Then a feature removal approach is used to identify the person's face. This process helps to identify a person's emotions using face image features. By removing part of the lips, mouth, eyes, and eyebrows, those concentrated substances are obtained. If the face information will accurately align the surface of the sensory base database then we can see the direct human emotion of playing the emotion-related audio record. Consent under a variety of natural conditions can be made by preparing a predetermined number of facial features. The proposed method is basic, effective and accurate.

Keywords- Computer Vision, Face Detection, feature extraction, Face emotion, Music player.

I. INTRODUCTION

The way of interaction between human beings is more than just verbal communication. According to scientific studies, humans rely heavily on non-verbal methods of communication, especially communication and understanding each other through expressions.

Expressions are more explanatory in situations where words fail, such as shock or surprise. Human-computer interaction technology refers to a kind of technology which takes computer equipment as the medium, so as to realize the interaction between human and computer.

Expression recognition, as an important means of intelligent human-computer interaction, has a wide application background. The facial expression recognition extracts the information representing the facial expression features from the original input facial expression images through computer image processing technology, and classes the facial expression features according to human emotional expression, such as happiness, surprise, disgust and neutrality.

The main purpose of proposing this framework is to find out the state of the human mind with the help of a picture of a face as information and then use these emotions to get the result play the sound document.

II. RELATED WORK

Author Name	Algorithms	Observations
-------------	------------	--------------

Yan Tang , Xingming Zhang , Xiping Hu , Siqu Wang, and Haoxiang Wang 2021	LMK, 'DCT transform'. SVM, CNN, Random Forest and KNN classifier	For feature point extraction three methods such as LMK CNN and Discrete Cosine Transform are discussed. After extraction, all the feature points are added together through the generalized mutual information selection method.
Balaji Balasubramaniam, Pranshu Dewan, Rajeshwar Nadar, Anuradha Bhatia 2019	Support Vector Machine (SVM), Convolutional Neural Network (CNN).	Covered datasets and algorithms used for the task of Facial Emotion Recognition: SVM and CNN
Hongli Zhang, Alireza Jolfaei, And Mamoun Alazab 2019	CNN	Proposed a facial expression recognition method using a CNN model which extracts facial features Effectively.
Dolly Reney, Dr. Neeta Tripathi, 2017	Viola-Jones face detection algorithm and KNN classifier are used.	The task is divided into two parts to store facial features and human voice features and a second evaluation of the person's face and emotion using the feature database

Monika Dubey, Prof Lokesh Singh.2016	Review on Emotion Recognition, Expression, Image Processing, Human Machine Interface	This work purpose is to introduce expression recognition needs and applications. Expression between verbal and non-verbal form of communication Non-verbal form of communication but it plays an important role
--------------------------------------	--	---

III. SYSTEM OVERVIEW

The proposed system uses human face to detect the emotions and finally use this result to play music related to emotion. Firstly image of a human face is given as an input to the system in png format, and then next image preprocessing is done where the noise of image is removed and is converted into grayscale.

After that face detection is carried out and then after successful face detection human face image is cropped. Then by using feature extraction techniques human are emotion is detected to play emotion based music.

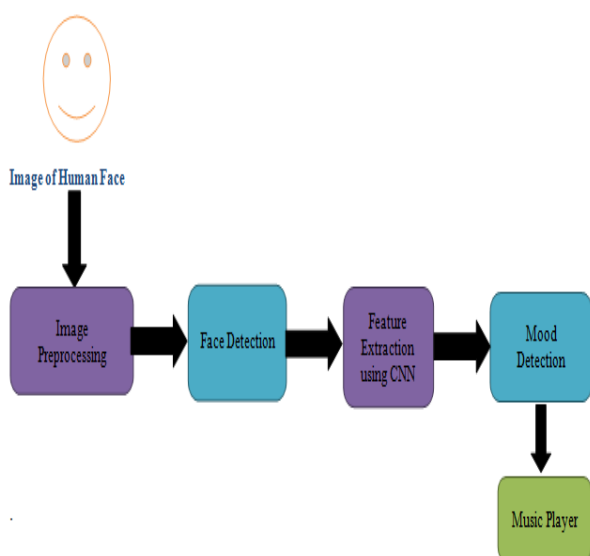


Fig 1. Proposed System Architecture.

IV. CONCLUSION

Facial Expression is a fundamental method of non-verbal communication, which is more illustrative in situations where words fail, like a shock or a surprise. In this paper, we propose an expression detection method using a CNN model that effectively extracts features.

Compared with conventional methods, the proposed method can automatically learn pattern features and reduce the imperfection caused by artificial design features.

REFERENCES

- [1] Yan Tang , Xingming Zhang , Xiping Hu , Member, IEEE, Siqi Wang, and Haoxiang Wang, "Facial Expression Recognition Using Frequency Neural Network". IEEE Transactions on Image Processing, Vol. 30, 2021.
- [2] Hongli Zhang 1, Alireza Jolfaei2, and Mamoun Alazab, "A Face Emotion Recognition Method Using Convolutional Neural Network and Image Edge Computing".
- [3] Bharati Dixit, Arun Gaikwad, "Facial Features Based Emotion Recognition". ISSN (e): 2250-3021, ISSN (p): 2278-8719 Vol. 08, Issue 8 (August. 2018).
- [4] J Jayalakshmi, Tessy Mathew, "Expression Recognition and Sentiment Classification Systems for Sentiment Analysis".2017 International Conference.
- [5] Suchitra, Suja P.Shikha Tripathi, "Real-time emotion recognition from facial images using Raspberry Pi II". 2016 3rd International Conference.
- [6] Dolly Reney, Neeta Tripathi, "An Efficient Method to Face and Emotion Detection". 2015 Fifth International Conference.
- [7] Monika Dubey, Prof. Lokesh Singh, "Automatic Emotion Recognition Using Facial Expression: A Review". International Research Journal of Engineering and Technology (IRJET) Feb-2016.
- [8] Anuradha Savadi Chandrakala V Patil, "Face Based Automatic Human Emotion Recognition". International Journal of Computer Science and Network Security, VOL.14 No.7, July 2014.
- [9] Songfan Yang, Bir Bhanu, "Expression recognition using emotion avatar image". 2011 IEEE International Conference.
- [10] Leh Luoh, Chih-Chang Huang, Hsueh-Yen Liu, "Image processing based emotion recognition". 2010 International Conference.
- [11] Jiequan Li, M. Oussalah, "Automatic face emotion recognition system". 2010 IEEE 9th International Conference.