# Face Detection Based Emotion Recognition Using Deep Learning

**Suraj Rathrod[1], Akshay Patil[2], Rohan Satpute[3], Prof. Komal Jadhav[4]**

Students, Department Information Technology[1,2,3]

Guide, Department Information Technology[4]

G H Raisoni College of Engineering and Technology, Pune, Maharashtra, India

surajrathod18rc@gmail.com[1], patilakshay1412@gmail.com[2], rohansatpute81@gmail.com[3]

**Abstract:** *Music aids in the reduction of stress, the development of self-esteem, and the improvement of health, among other things. It can be broken down into a number of different genres. People tend to choose a particular music genre based on their mood and interests. As a result, there is a clear need for a platform that can automatically recommend music based on an individual's feelings. Facial expressions can be seen of as a type of nonverbal communication that can transmit information about a person's moods. As a result, Egophony is primarily concerned with the development of an application that would recommend songs to the end user based on their emotions and interests by capturing their facial expressions. We've developed a system that can recognize emotions based on facial expressions. Once the mood has been identified, the system will recommend a playlist of music from a specific genre based on the emotion. It will ultimately save a significant amount of time that would otherwise be spent manually searching, selecting, and playing songs.*

**Keywords:** Emotion recognition; Music Recommendation; Data-set; Convolutional Neural Networks;

## REFERENCES

[1]. Manisha Singh and Himanshu Tuli, "Emotion Recognition System through Facial Expressions Using Machine Learning", International Research Journal of Engineering and Technology, 2020

[2]. Chieh-En James Li, Lanqing Zhao "Emotion Recognition using Convolutional Neural Networks", Purdue University Purdue e-Pubs Purdue Undergraduate Research Conference 2019

[3]. Sicheng Zhao, Hongxun Yao, Yue Gao, Guiguang Ding, Tat-Seng Chua. "Predicting Personalized Image Emotion Perceptions in Social Networks", IEEE Journals and Magazines, Volume 9, Issue 4, Page 526-540, October 2018.

[4]. Biao Yang , Jinmeng Cao , Rongrong Ni , Yuyu Zhang, "Facial expression recognition using weighted mixture deep neural network based on double channel facial images", IEEE Journals and Magazines, Volume 6, Page s: 4630-4640, February 2018

[5]. S. Li and W. Deng, "Deep facial expression recognition: A survey," arXiv preprint arXiv:1804.08348, 2018

[6]. Huang, Chen, et al."Deep imbalanced learning for face recognition and attribute prediction."IEEE transactions on pattern analysis and machine intelligence , 2019

[7]. Deng, Jiankang, et al. "Lightweight face recognition challenge." Proceedings of the IEEE International Conference on Computer Vision Workshops. 2019.

[8]. Siddiqui, Muhammad Farhan, et al."FaceDetection andRecognition System forEnhancing Security MeasuresUsingArtificial Intelligence System." INDIAN JOURNAL OF SCIENCE AND TECHNOLOGY , 2020

[9]. Dandıl, Emre, and Rıdvan Özdemir. "Real-time Facial Emotion Classification Using Deep Learning." Data Science and Applications , 2019