FACIAL EMOTIONS RECOGNITION OF STUDENTS USING CONVOLUTIONAL NEURAL NETWORKS

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ABSTRACT

In general, it is easy for humans to recognize the emotions of other humans. But recognizing the emotions of humans with the help of a computer is quite challenging. Advanced technologies like machine learning and computer vision are used to recognize human emotions. In this paper, the recognition of human emotions are done by a Convolutional Neural Network, OpenCV, Tensorflow and Dataset of FER2013. We obtained the Facial emotions recognition 2013 test accuracy of 75.2%. CNNs perform better for image classification and recognition as they are efficiently capture specific features of the inputs as they have huge number of filters. The proposed model comprises of two fully linked layers, two max-pooling layers and six convolutional layers. After removing the numerous hyperparameters, this model had a final accuracy of 0.60.

INTRODUCTION

Emotions play a vital role in our lives so they can be expressed through expressions, gestures, attitudes, etc. The face is an emotion-rich option for recognizing emotions. Nowadays many researchers in psychology, medicine, and animation are interested in this technology of human-computer interaction. There will be three phases: Feature Detection, Feature Extraction, and Classification of Emotion.[1] The primary goal of this paper is to classify the detected human face into six basic emotions or the seventh neutral face.

Ekman et al, in the 20th century, defined basic emotions which grow with humans.[12] Another researcher Sajid

| Happy | Sad | Neutral | Angry | Fear | Surprise | Disgust |

et al defines the asymmetry of the right side as best than the left side of the face [13] and the face pose still remains complex with FD this is solved by using a Three-dimensional pose invariant approach by Ratyal et al [14]. By using convolution networks, the other complexities like heavy makeup and expressions are solved. Using developed computer vision and machine learnig, makes it easier to get accurate results in identifying an emotion.