Facial Expression Recognition with Convolutional Neural Networks

Abstract

Facial expression is a main tool by which human beings as well as other living beings conveys their emotions. This paper discuss about the facial expression recognition using CNN (convolutional Neural Network), a part of deep learning.
This paper discuss about classifying facial Expression recognition (FER) based on static images, without requiring any pre-processing or feature extraction. It also discuss about other techniques to improve future accuracy using preprocessing and it includes face detection, illumination, feature extraction etc.
The dataset used is FER2013. The system's ~~best~~ technical work is divided in 3 different components, i.e, preprocessing, feature extraction & CNN Architecture this model was trained using 6 convolutional layers using 'RELU' as an activation function. in which 3 max-pooling and each max pooling ~~is~~ followed by 2 convolutional layers. One flattened layer with 'RELU' and other with 'Softmax' as an activation function that classifies 6 expressed classes - Angry, Sad, Disgust, Fear, Happy, Surprise and Neutral. The dataset contains 35,887 face crops, including training, validation and testing images. ~~All images are~~

the model takes facial images as input and classifies output as by classifying them into one of the total 6 facial expressions.

Our project aims to classify the a behaviour from the input image (facial expression) and this paper ~~do~~ taking face as input classify them in to happy, sad, fear, disgust, surprise & neutral

- Shiraz Mohammed
1RC17CS094.