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Facial Expression Recognition via Deep Learning

The facial expression recognition is a difficult problem for machine learning. Deep learning will extract features automatically from the given input image. Here, deep learning method, specifically CNN is used for facial expression recognition. The architecture is fine tuned with vgg net. The databases used are CK+, MUG and RAFD. The proposed CovNet consists of four convolutional layers for which the first three is followed by max pooling layer and the last convolutional layer is followed by ~~softmax layer~~ fully connected layer and it is followed by softmax layer for 6 expression classes like angry, fear, happy, neutral, sad and surprise. The dataset which is a combination of CK+, MUG and RAFD consisting of 37000 images are used out of which 33000 are used for training step and the rest for testing set. The model is trained with images in which the face is in one position. The model will take facial images as input and classifies it into one of the 6 facial expressions.

Our project classifies the input facial images into 9 bhavas. This paper classifies the input facial image into 6 facial expressions and both are using Convolutional Neural Network (CNN) for feature extraction and classification.