Automatic Facial Expression Recognition on Smartphone

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Project Objectives:

This project aims to develop an Automatic Facial Expression Recognition (AFER) application that can run on smartphones. The main feature of the AFER application is that the application is a real-time facial expression recognition. The AFER application allows the user to capture a frontal face of a person's facial expressions in real time with the smartphone's camera. The incoming video stream is processed by a convolutional neural network (CNN) to recognize the cropped facial expressions. Once the expression classification is complete, the AFER application displays the corresponding results.

Key Process Flow:

Face detection: detect the face which captured by the smartphone camera
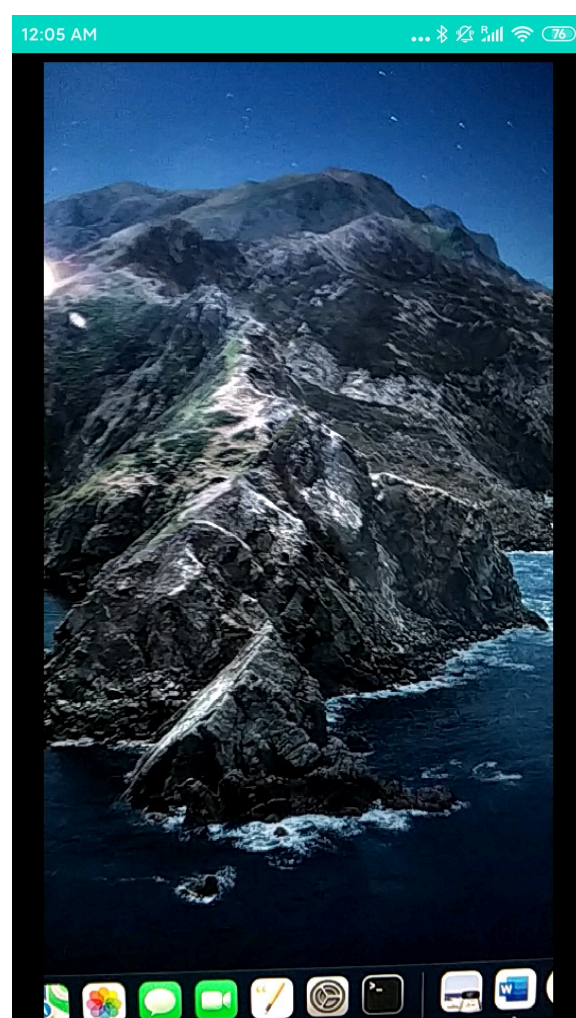
Facial expression recognition: classify the facial expression according to the categories

Real-time display: after the AFER application has classified the facial expressions, the application should display the corresponding results above the cropped face in the application.
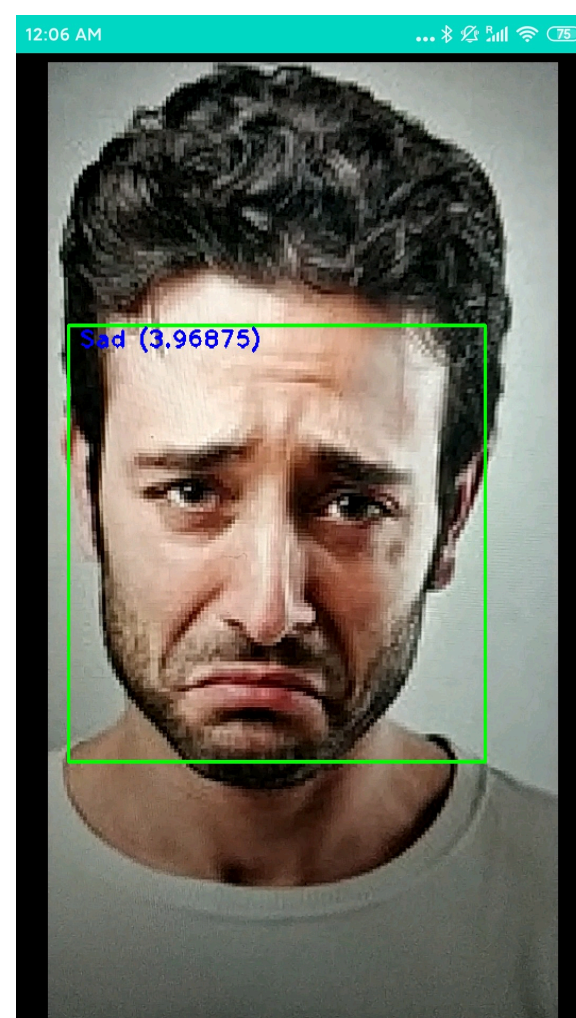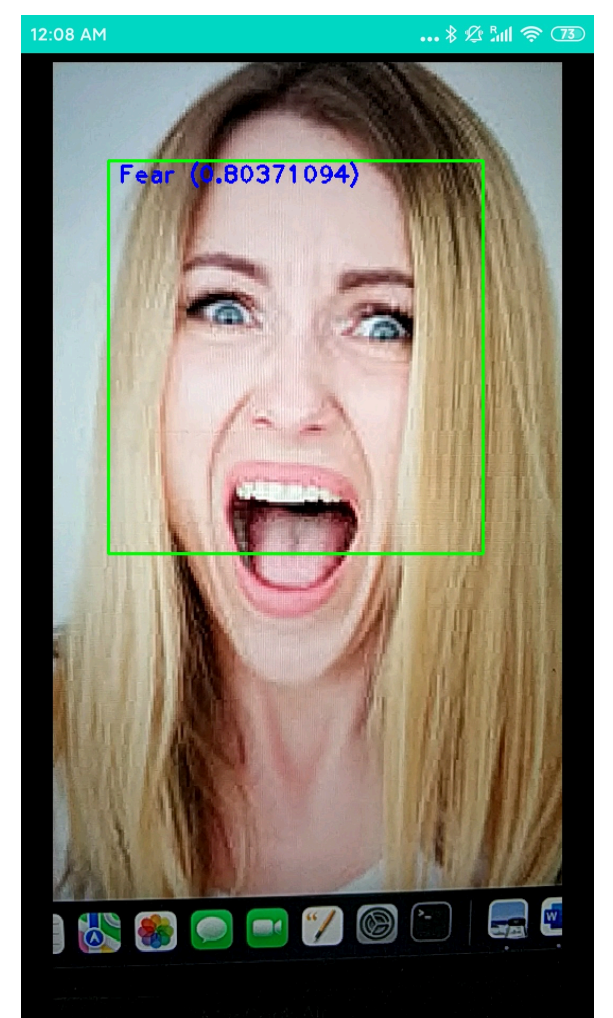
Structure of Facial Expression Recognition
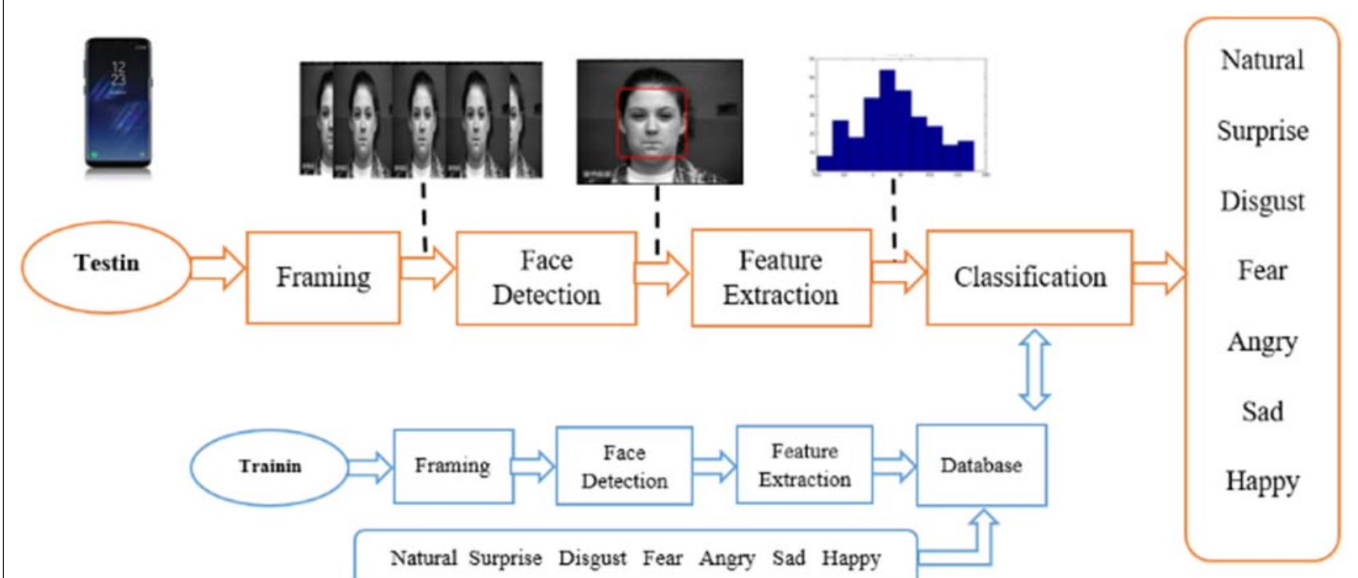
Home Screen   Activate Camera   Sad   Fear