NTDS 2016 - Project Description

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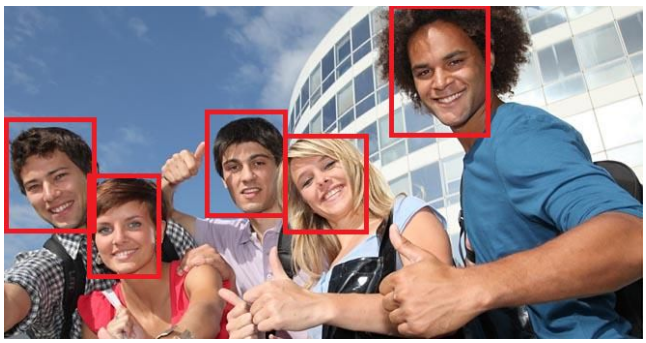
The purpose of the project is to learn to recognize emotions from dataset of faces from one of facial emotion datasets available.
https://www.behance.net/gallery/10675283/Facial-Expression-Public-Databases .

LTS5 lab at EPFL is doing very similar projects on facial emotion recognition. We will be in contact with them for good database and consultation about teaching our CNN. Afterwards, we'd like to compare our method (standard CNN) with the one that they're using.

The main idea about usage of our final application is to receive the photo of group of people and and recognize emotions of each person. To to this, first we'll separate faces from the image and rotate them to have a face always aligned. Then we'll feed our pre-trained model (probably CNN) with these photos to recognize emotions of each face.

Example input data with recognized faces shown below:



We will use a library(e.g. OpenCV) to recognize faces rectangles and then separate them :

Then also rotate them so that we have face always aligned and convert to grayscale (for the algorithm).

Example:

HAPPY: 90%
SAD: 5%
ANGRY: 5%
SURPRIZED: 0%

The number of emotions recognized depends on the dataset (classes) we might have.