

Homework

Facial Vector Extraction

Given the url link for facial vector extraction below, download the code and run this program:

<https://towardsdatascience.com/detecting-face-features-with-python-30385aee4a8e>

- (1) Acquire a facial image either from your phone, laptop or from youtube, or google.
- (2) Use OpenCV program to resize the image if needed to give the best fit dimension to the existing program.
- (3) Run this program and display your result by using OpenCV to plot each dot of the features. Then use openCV to draw the lines to connect each logic set of the feature vectors, such as lips, right eye, et.c.
- (4) Inspect your program and pay attention to the following code

```
# Load the predictor  
predictor = dlib.shape_predictor("shape_predictor_68_face_landmarks.dat")
```

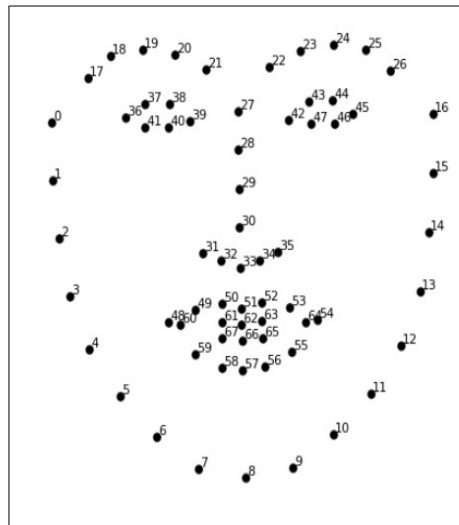
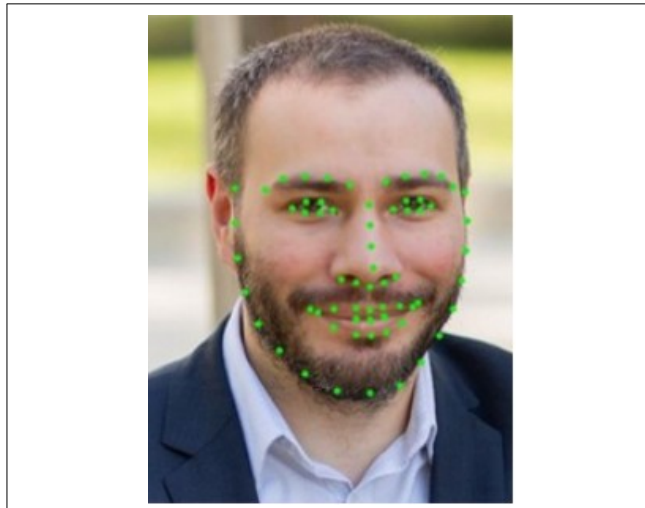
- (5) Locate the file of the facial predictor and write up a half page description of your analysis.

shape_predictor_68_face_landmarks.dat

- (6) investigate smaller facial shape predictor based on the following reference

<https://github.com/davisking/dlib/issues/359>

and if you are interested, you want to try to create a simpler, smaller facial predictor. And explain your design.



(7) Submit your work to the instructor hualili@yahoo.com and Prepare for show and tell by quick, two minutes, code walk-through.

(End)