**Boss Detector**

**Overview**

This is a project that helps to detect the boss when he approaches towards the employee. This project implements the face detection and recognition. The aim of the project is to identify one or multiple subjects as boss and then switch the screen.

**Prerequisites**

* The software we are using to implement the project is the anaconda.
* We have installed all the necessary library packages like sklearn, keras, tensorflow, OpenCV, and numpy.

**References to the technologies used:**

Installation guide for Anaconda:

* <https://conda.io/docs/user-guide/install/index.html>

Guide for sklearn:

* <http://scikit-learn.org/stable/user_guide.html>

Guide for keras:

* <https://keras.io/getting-started/sequential-model-guide>

Guide for tensorflow:

* https://www.tensorflow.org/get\_started/get\_started

Guide for OpenCV:

* <https://docs.opencv.org/2.4.13/doc/user_guide/user_guide.html>

Guide for numpy:

* <https://docs.scipy.org/doc/numpy-1.13.0/user/>

**Getting started**

* Install OpenCV, PyQt5, Anaconda.
* conda create -n venv python=3.5
* Source activate venv
* conda install -c [https://conda.anaconda.org/menpo opencv3](https://conda.anaconda.org/menpo%20opencv3)
* conda install -c conda-forge tensorflow4
* Change Keras backend from Theano to TensorFlow.

**How to run:**

1) First, add the images of the boss in the folder data under subfolder ‘boss’ and add images of the others in the folder data under subfolder ‘other’. Try to take the image which covers most of the face.

2.) Train the model by running the module boss\_train. py.

3.) Run the camera\_reader.py which will capture video and will use the model to detect the boss.

**Running the tests**

Separate automated test cases have not been coded for this application. Manual testing has been implemented using the subject (boss) and others (non – boss entities).

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