My Little Progress Report

My programme: Real-time people recognition using HOG Descriptor

How it works:

* Capture video with one frame per second
* For each frame, apply the HOG detector, and after a series of calculation (conducted by the detector itself ) we draw rectangles around people.
* Print the value of counter
* Show the frame to screen

Both websites have good explanation about how the function “detectMultiScale” works. (Although I only understand 60% of the content):

1. <https://www.bogotobogo.com/python/OpenCV_Python/python_opencv3_Image_Object_Detection_Face_Detection_Haar_Cascade_Classifiers.php>
2. <https://www.pyimagesearch.com/2015/11/16/hog-detectmultiscale-parameters-explained/>

This webpage explains HOG detector very well:

<http://mccormickml.com/2013/05/09/hog-person-detector-tutorial/>

\*\*A gradient vector can be computed for every pixel an image. It’s simply a measure of the change in pixel values along the x-direction and the y-direction around each pixel. (This is IMPORTANT)

Remarks:

You guys better download all the libraries needed.

Once you download the python (I use 3.7 version), make sure to include the path to pip.exe file in the environmental variable setting so that you guys can download libraries needed.

e.g. my path: C:\Python37-32\Scripts

You can also set the path like this:

e.g. set PATH=%PATH%;C:\Python34\Scripts

in the Script folder, I found the pip.exe file. We can download python packages through pip. Pip is a package management system used to install and manage software packages written in Python.

In the command prompt, make sure to locate the file by using cd (file name)

e.g. cd Python37-32\Scripts

Once the path is located, you guys can type “ pip install (package name) “to install them.

e.g. C:\Python37-32\Scripts>pip install cmake

Common command prompt syntax:

**cd xxx\xxx…** find file path

**cd ..\** move up one hierarchy

**cd /** move to the base files

**dir** display file directory

compulsory packages:

pip install opencv-python

pip install imutils

The library I included in the program f.y.r:

from \_\_future\_\_ import print\_function

import numpy as np

import cv2

from imutils.object\_detection import non\_max\_suppression

from imutils import paths

import argparse

import imutils

I personally recommend to use command prompt to run the file since the libraries can be located easily and more convenient.

You can place the source code file into “Python37-32” file (the name might be different for different versions) and run the command:

C:\Python37-32>python TRY\_play\_video.py

To stop the execution when open through cmd, press Ctrl+C two times to interrupt the execution. If you open that through IDE, press Q.

All the libraries installed through pip should be inside the Lib file. For me, the path is:

C:\Python37-32\Lib\site-packages

Place the library in that and let the Python Shell do the work for you.