### opencv对IP摄像头图像中物体的分析：

用python Harcascade 编写抓视频代码，开始对视频内容进行分析

A:object detection：

Object Detection is a computer technology related to computer vision, image processing, and deep learning that deals with detecting instances of objects in images and videos. We will do object detection in this article using something known as haar cascades.

Haar Cascades

Haar Cascade classifiers are an effective way for object detection. This method was proposed by Paul Viola and Michael Jones in their paper Rapid Object Detection using a Boosted Cascade of Simple Features. Haar Cascade is a machine learning-based approach where a lot of positive and negative images are used to train the classifier.

Positive images – These images contain the images which we want our classifier to identify.

Negative Images – Images of everything else, which do not contain the object we want to detect.

Requirements.

Our experiments is focus on following objects that interested in CCTV areas:

Open source trained Data:

<https://github.com/opencv/opencv/tree/master/data/haarcascades>

import cv2

from matplotlib import pyplot as plt

# Opening image

img = cv2.imread("Digivisual\_test11.jpg")

# OpenCV opens images as BRG

# but we want it as RGB We'll

# also need a grayscale version

img\_gray = cv2.cvtColor(img, cv2.COLOR\_BGR2GRAY)

img\_rgb = cv2.cvtColor(img, cv2.COLOR\_BGR2RGB)

# Use minSize because for not

# bothering with extra-small

# dots that would look like STOP signs

stop\_data = cv2.CascadeClassifier('stop\_data.xml')

found = stop\_data.detectMultiScale(img\_gray,

minSize =(20, 20))

# Don't do anything if there's

# no sign

amount\_found = len(found)

if amount\_found != 0:

# There may be more than one

# sign in the image

for (x, y, width, height) in found:

# We draw a green rectangle around

# every recognized sign

cv2.rectangle(img\_rgb, (x, y),

(x + height, y + width),

(0, 255, 0), 5)

# Creates the environment of

# the picture and shows it

plt.subplot(1, 1, 1)

plt.imshow(img\_rgb)

plt.show()

## How to Train a harr-cascade classifier :

Purpose：Use open source to train a car classifier

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