Python Project

Assignment of OpenCV

The Detection of Traffic Light

Traffic Light is very important in our traffic system. It makes us cross a road safely. It is also important in our automatic driving system. Now your assignment is use OpenCV-Python to detect the color of traffic light.

Here is the video which you will use for your detection. https://drive.google.com/file/d/1UZ4j--y0kZYIlb2T4CABs-bzmPoBUwKI/view?usp=sharing

I must emphasize that OpenCV is a very powerful library for computer vision. Every embedded developer need learn how to use OpenCV. Before use it, you need know some basic knowledge of Python. If you need to learn OpenCV, you can learn from this website https://docs.opencv.org/4.x/d6/d00/tutorial_py_root.html

The principle of detecting traffic lights is simple. First you iterate over the entire image and count the number of green/red/yellow. Then you need to set a threshold. If the number of pixels of a certain color exceeds the threshold, you can detect the current color of traffic light and print the color in the terminal.

However, the method is very simple. It cannot be used in many complex environments. How to solve this problem? Think about that.

What result I want to see is this:
https://drive.google.com/file/d/14LYdtyGPLJLk4GtqKgcxcy1VVGbeD4PD/view?usp=share_link

You have 2 weeks to finish this assignment. And please finish the assignment in Ubuntu or other Linux Operating Systems.