Task - Red Light Detection

Rasleen Kaur

Task Link - @Red_TrafficLight_Detection Saturday, 15.08.2020

Technologies Used :

OpenCV
Python
NumPy

About:

I have devised an algorithm that detects the red traffic light in the video feed. It can be modified for real-time feed as well. The algorithm uses HSV variations of the color and techniques including hough circle transform, color detection, and object tracking, and detects the lights in real-time.

Future modifications:

We can train a TensorFlow model using Object Detection API to detect the state of the Traffic Light. I was not able to gather that much dataset of traffic lights, so I devised an OpenCV algorithm for this.
The parameters can be modified further for better accuracy.

Instructions

- The Github repository contains the Python script - *detection.py*
- The outputs videos on the dataset provided are in *outputs folder* - Drive_outputs

References:

- https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_imgproc/py_houghcircles/py_houghcircles.html#hough-circles
- https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_imgproc/py_colorspaces/py_colorspaces.html