UDACITY

< Return to "Intro to Self-Driving Cars" in the classroom

Traffic Light Classifier

REVIEW

CODE REVIEW

HISTORY

Meets Specifications

Great work, student! Congratulations on passing this project and best of luck going forward!

If you're interested in how to implement a more advanced traffic light detection and classification algorithm, check out this post!

Notebook Questions

✓

In the project notebook, all questions are answered. (There are two questions total.)

You explained your approach clearly for the first question an identified the weakness of the algorithm for the second question. Nice work!

Pre-processing

✓

All input images (before they are classified) should be processed so that they are the same size.

Nice job cropping and resizing the images!

✓

All labels should be a one-hot encoded vector of length 3. Ex. 'yellow' becomes: [0, 1, 0].

Good work one-hot encoding the labels!

What happens in the case of an invalid label? Right now you would give a label of 'green'. You could make the algorithm more robust by handling erroneous labels, either by raising an exception or marking the instances for later viewing.

Create a brightness feature

✓

Using HSV colorspace, extract a feature from a traffic light image that represents the level(s) of brightness in an image. This feature can help classify any traffic light image. A feature can be a list, array, or a single value.

Great work masking and finding the brightness position to label the traffic light images!

Classification Model

✓

Using any created features, write a classification function that takes in a standardized RGB image and outputs whether a traffic light is red, yellow, or green as a one-hot encoded label.

Awesome job implementing your traffic light classifier!

Model Evaluation

✓

The model must have greater than 90% accuracy on the given test set.

Your classifier achieved 94.6% accuracy, well done!

✓

In the given test set, red traffic lights can never be mistakenly labeled as green.

No red traffic lights were mistakenly labeled green. Nice work!

DOWNLOAD PROJECT

RETURN TO PATH