Finding Lane Lines on the Road

Overview

Hello. I am a student of self driving car nano degree Program. My name is Juwon lim.

This document explaining of my first project.

Installation Process

Please install below packages.

1.python 3.x

2.Opencv

3.numpy

4.matplotlib

5.Pillow (for using imagegrab)

6.moviepy (for playing example movies)

The File Manifest

1. Play_the_movie_solid_white_right.py

2. Play_the_movie_solid_yellow_left.py

3. Detect_the_edges.py

Usage

It can be run under Pycharm and Jupyter notebook.

Under Jupyter notebook

****Step 1:****

Open the file **limjuwon_first_project_resubmit_lane_detection_OCT_01_2020.ipynb**

There is a code like below.

```
from Play_the_movie_solid_white_right import origin_video

#when it runs, No errors but sometimes nothing happen. in this case, Please run under pycharm.
from Detect_the_edges import edge_detection
```

(when you confirmed the line marking , Please stop the running the codes.)

```
from Play_the_movie_solid_yellow_left import origin_video

#when it runs, No errors but sometimes nothing happen. in this case, Please run under pycharm.
from Detect_the_edges import edge_detection
```

(when you confirmed the line marking , Please stop the running the codes.)

Note : Under Jupyter notebook envirment, sometimes, no errors but sometimes nothing happens. At that time, Please run it under pycharm.

Under Pycharm

****Step 1:****

Run the file (Play_the_movie_solid_white_right.py) : This file Plays the given example movie.

****Step 2:****

Run the file (Detect_the_edges.py) : This file capturing from the given example movie and Generating Line marking.

****Step 3:****

Watching the Line marking and Stop Running the codes.

****Step 4:****

Run the file (**Play_the_movie_solid_white_right.py**) : This file capturing from the given example movie and Generating Line marking.

****Step 5:****

Run the file (Detect_the_edges.py) : This file capturing the given example movie and Generating Line marking

Special Notice

Please set the your desktop or laptop screen to 1920 x 1080.

In the File 'Play the movie_. solid_white_right py' and Play_the_movie_solid_yellow_left.py

There is the def fuction,

'cv2.resizeWindow(" ******* ", 640,480)

It determines the screen size.

In the File 'Detect_the_edges.py'

There is the function named 'edge_detection'. It has the code below

image = np.array(ImageGrab.grab(bbox=(0,40, 800,600)))

This code grabbing image from the designated window desktop(or laptop) area.

When You Run the File 'Play the movie.py', it will open the screen named **'Example_movie'.**

This screen size is adjustable. But keep it as it is and move it to left top corner of the windows screen area.

When You Run the File 'Detect_the_edges.py'. It will open the screen named '**Line_marking'.**

It will capturing image from the screen **'Line_marking'.**

So, Don't overlay these screens each other.

Please refer the output movie under the test_videos_output folder.

Lim_Juwon_.solidWhiteRight.mp4

It will shows you the result of my codes and screen location on the desktop screen.

Special Thanks

Dear my instructor.

Without your help ,I couldn't make it. Thank you and be careful from Covid-19.

Best Regards from Seoul, korea.

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