江苏大学海外教育学院
Overseas Education College of Jiangsu University

*School of Computer Science & Communication Engineering*

**DEGREE PROJECT MISSION REPORT**

**PROJECT TITLE: LANE LINE DETECTION SYSTEM WITH LINE RECOGNITION**

**Department: Computer Science**

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**Date: 03/03/2020**

**Project Topic Basis:**

Identifying lanes on the road is a common task performed by all human drivers to ensure their vehicles are within lane constraints when driving, so as to make sure traffic is smooth and minimize chances of collisions with other cars due to lane misalignment. Similarly, lane lines detection in vehicles is a system that is capable of detecting the lane markings, on roads, that are indicative and prohibitive of the correct and safe passage ways of the vehicles. The lines are captured from videos recorded by cameras mounted onto the vehicles. The main principles of implementation this system are through various steps of edge detection, which are basically the lane lines in the image source according to a specified area of interest.

In order to detect the edges, the image goes through a series of processes arranged in a form of pipeline, one process after another with the output of one process being the input of the next. In general, the processing is done in such a way as to point out the highest changes in intensity in the picture thus identifying white/yellow lines which are most likely lane lines, with the main focus being high frequency areas of the image. However, a region of interest is preset according to the angle of the camera to the road. The system concentrates on this area.

Computer Vision in vehicles can lead to the designing and development of advanced and next-gen vehicles which can overcome driving obstacles while keeping passengers safe. Such cars can transport passengers to their destination eliminating human intervention.

**Project Requirements**

- Anaconda Distribution 3
- Python 3.7
- Atom text Editor
- PIP Python file
- 4 GB RAM or more

**Project Schedule:**

| Start/End Date | Task |
|---|---|
| **2020/02/20-2020/03/01** | Gather information on Image processing and lane line detection |
| **2020/02/25-2019/02/25** | Select Processing and Detection tools |
| **2020/03/01-2020/06/01** | Make word document of Thesis |
| **2020/03/01-2020/03/02** | Test different Sample data |
| **NOTES** | |