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PROJECT PROPOSAL

CS 5335: Pattern Recognition and Computer Vision

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Group Members:

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Problem statement:

Autonomous Lane and Number plate detection using classic Computer Vision and Deep Learning

Procedure:

- Detect lanes using classic computer vision in C++
- Detect objects and Car number plates using YOLO V5
- Note: As of now we are not sure if YOLO V5 can detect the license plate, if it does not then we will train the model with the dataset we have for number plates.
- Extract License Number Plate from the image using Optical Character Recognition (OCR)

Current Progress:

- We went through a couple of blogs which are our reference to moving forward.
- The objective seems possible to achieve in the given timespan.
- We might need the discovery cluster, but we are not sure as of now.

Why did we choose this project?

- To learn about the classical approach to detecting lanes.
- To learn more about deep learning frameworks.
- Our motivation for doing license plate detection is to apply that in various application as follows:
  - Suspicious car's number plate detection and alert system.
  - Keeping track of Vehicles entering inside a building.

What experiments we plan to run

- Test system using a prerecorded video. Possibly found through the internet.
- Test the system on live video feed.