# Road Lane Line Detection

## Group Members:-


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## Objective:-

Lane Line Detection is a project in which we will build a model to detect lane lines in real-time. We will do this using the concepts of computer vision using the OpenCV library.

Deep learning is a subset of machine learning in artificial intelligence (AI) that has networks capable of learning unsupervised from data that is unstructured or unlabeled.

## Requirement:-

We will be making this project using python3 language and using concepts of machine learning and deep learning. OpenCv library of python will be used to make this projects. Python compilers like spyder, jupyterNotebooks will be used to compile.

# Details:-

Lane Line detection is a critical component for self driving cars and also for computer vision in general. This concept is used to describe the path for self-driving cars and to avoid the risk of getting in another lane.To detect the lane we have to detect the white markings on both sides on the lane.

Using computer vision techniques in Python, we will identify road lane lines in which autonomous cars must run. This will be a critical part of autonomous cars, as the self-driving cars should not cross it's lane and should not go in opposite lane to avoid accidents.

To detect white markings in the lane, first, we need to mask the rest part of the frame. We do this using frame masking. The frame is nothing but a NumPy array of image pixel values.

After making we need to detect lane lines. The technique used to detect mathematical shapes like this is called Hough Transform. Hough transformation can detect shapes like rectangles, circles, triangles, and lines.