Synopsis

Artificial Intelligent Project – Lane Detection

Title of project – Lane Detection while driving.

Group Details –

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Project Description

The lane detection while driving project is a computer vision project that aims to detect the lane

lines on the road while driving. It is an essential component of many advance driver assistance

systems (ADAS) and self-driving cars. The project involves capturing a video feed from a

camera mounted on the vehicle and then using various computer vision techniques to detect and

track the lane lines.

The project requires a strong foundation in computer vision and programming, and proficiency

in libraries such as OpenCV, NumPy, and Matplotlib. The ultimate goal of the project is to

create a reliable and accurate lane detection system that can improve driving safety and

potentially be integrated into autonomous vehicles.

Code description/ Algorithms used

The algorithms that we will be using in the project are Camera calibration, Perspective

transformation, Thresholding, Lane Line Detection and Lane line visualization. Overall the

code combines several algorithms from the field of Computer Vision to provide an accurate and

reliable solution for lane detection.

Expected output

The expected output of the project depends on the input file provided to the process\_image or

process\_video method of the FindLaneLines class. In general, the output of the lane detection

algorithm is an image or video that shows the detected lane lines overlaid on the original input

image or video.

The lane detection algorithm is expected to accurately detect and track the lane lines in the input

file, even under challenging lighting and environmental conditions. The output should provide a

clear and concise visualization of the detected lane lines, which can be used for various

applications such as driver assistance and autonomous driving systems.