Title: Vehicle Number Plate Detection and Recognition System

Brief Write-up: This project focuses on developing a robust Vehicle Number Plate Detection and Recognition System employing advanced image processing techniques. The system is designed to accurately detect and read vehicle number plates from images and video streams, addressing challenges posed by diverse plate designs, variable lighting conditions, and complex backgrounds. The methodology includes preprocessing steps to enhance image quality, segmentation techniques to isolate number plates, and Optical Character Recognition (OCR) to accurately extract and interpret the alphanumeric characters. This approach ensures high accuracy and reliability, making it suitable for real-time applications such as law enforcement, toll collection, and parking management.

Problem Definition: Detecting and recognizing vehicle number plates presents significant challenges due to the variability in plate designs, fonts, sizes, and environmental conditions. Traditional systems often struggle with issues such as poor image quality, varying plate orientations, and complex backgrounds, leading to decreased accuracy and reliability. To overcome these challenges, there is a need for a sophisticated system that can preprocess images to improve clarity, effectively segment number plates from diverse backgrounds, and accurately recognize characters under varying conditions. The goal is to develop a system that ensures precise vehicle identification and performs effectively in real-time scenarios.

Group details:

1. Ajmal - B220138CS

2 .Adhithya E D - B220113CS

3.Rachel Paul - B221138CS