**CSE541: - Computer Vision**

**Weekly Report - 1**

**Section Number - 1**

**Group Name: - string the\_boys;**

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**Road sign recognition system**

Task performed during the week:

1] Identifying the problem statement:

Despite the importance of traffic signs in ensuring road safety and traffic management, there are still instances where drivers fail to obey traffic signs or miss important road information due to various factors such as poor visibility, distractions, or unfamiliarity with the road. This can lead to traffic accidents, violations, and delays, posing a significant risk to public safety. Traditional approaches to traffic sign detection and recognition rely on manual inspection, which can be time-consuming and error-prone. Therefore, there is a need for a reliable and efficient system that can automatically detect and recognize traffic signs in real-time using computer vision techniques.

2] We investigated what a road sign recognition system is and what functions it should have. This system should be able to detect and classify different types of traffic signs accurately and quickly, even in adverse weather conditions or low-light environments. The system should also be able to provide timely alerts to drivers and traffic management systems to prevent potential hazards and ensure efficient traffic flow. The development of such a system would have significant benefits for road safety and traffic management, reducing accidents, violations, and delays while improving overall traffic efficiency.

3] Road sign recognition system involves the use of image processing algorithms to identify and recognize road signs from camera feeds. The process typically involves pre-processing of images to enhance the visibility of traffic signs and the application of machine learning models to classify the signs into different categories, such as speed limit signs, stop signs, and yield signs. Various computer vision techniques such as object detection, semantic segmentation, and deep learning algorithms have been used to achieve accurate and real-time traffic sign detection.

4] Application

The application of traffic sign detection using computer vision has the potential to reduce traffic accidents, improve traffic flow, and enhance the overall safety of roads for both drivers and pedestrians. Additionally, this technology can be used to assist drivers in navigating unfamiliar roads and to provide alerts for potential hazards or road closures.

References:

<https://www.studocu.com/in/document/visvesvaraya-technological-university/computer-communication-networks/traffic-sign-detection-recognition-system-report/30131569>

<https://www.diva-portal.org/smash/get/diva2:523372/fulltext01.pdf>