Traffic Sign Detection under Foggy Conditions using Machine Learning

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Abstract: *The "Voice-Enabled Traffic Sign Recognition and Alert System" is an innovative application of machine learning and computer vision technologies aimed at enhancing road safety and driver awareness. In today's fast-paced world, the ability to promptly recognize and respond to traffic signs is crucial to prevent accidents and promote responsible driving. This project introduces a novel system that employs a camera installed in a vehicle to capture real-time images of the road. These images are then processed using advanced computer vision algorithms to detect and classify traffic signs. Furthermore, the system utilizes natural language processing to provide voice alerts to the driver, ensuring that they are informed about important traffic signs, speed limits, and other crucial information without taking their eyes off the road..*

Keywords: Traffic Sign Detection, Traffic Sign Recognition, Machine Learning, Computer Vision, Voice Alerts, Foggy Conditions, Convolutional Neural Network (CNN), Real-Time Image Processing, Driver Assistance System

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