BRAINSTORMING

SAMYUKTHA K G

Road traffic accident is a major problem worldwide resulting in significant morbidity and mortality. Advanced driver assistance systems are one of the salient features of intelligent systems in transportation. They improve vehicle safety by providing real-time traffic information to the driver. Road signs play an important role in road safety. To be effective, road signs must be visible at a distance that enables drivers to take the necessary actions.

VEERASAWAKAR R

Several studies on road safety have been conducted using a device onboard a vehicle to detect and recognize signs. Developing a **traffic sign recognition system** that uses a vision camera mounted on a vehicle that detects and recognises the colours and shapes of the road signs. The studies by Farhat et al and Hechri et al found a recognition of road signs with an average accuracy of about 95.53% and 92.8%, respectively. However, recognizing road signs based on colours and images presents numerous challenges. These include lighting conditions that vary naturally with the time of day and weather conditions, images that have been buffed by a moving vehicle's vibration, fading of paint on the sign and occlusion of the sign by obstacles such as a tree, street lamp, or buildings.

VARSHA B

Other approaches have used mobile devices on a vehicle and communication infrastructure on the road. The studies have developed a **road sign notification system** based on the global positioning system (GPS) and wireless radio frequency identification (RFID) technology. RFID transmitters were placed at the locations of road signs, and a receiver was placed in the vehicle. Using the system, drivers were alerted about the next road signs at some predetermined specific distance before the road signs were encountered. However, the use of RFID transmitters in two-way traffic could be limited, in the sense that their signals might be detected by vehicles traveling in the opposite direction. Thus, this situation can be misleading the drivers. Also, the devices are expensive and require a constant power supply and regular maintenance.

SHREYAS K

Road accidents cannot be eliminated but can be reduced by enhancing the safety of the drivers. This study developed a smart mobile-based application that uses in-built sensors to alert drivers with voice and image notifications. The application provides a voice alert to a needed action that enhances the driver’s attention. The smartphone is used to avoid the need for onboard devices to detect and recognize road signs, sensors on road infrastructure, and the use of WLAN.