

DECLARATION

We, **LOKESH V (1SK13EC017)**, **SHREYAS M (1SK13EC054)** and **T RAKESH (1SK13EC058)** students of VIII semester BE in Electronics and Communication Engineering, **Govt. S K S J Technological Institute**, Bengaluru, hereby declare that the project work entitled “**INTELLIGENT DRIVER ASSISTANCE SYSTEM**” submitted to the **Visvesvaraya Technological University(VTU)**, Belagavi during the academic year 2016-17, is a record of an original work done by us under the guidance of **Mrs. Mamatha R**, Assistant Professor, Department of Electronics and Communication Engineering, G S K S J T I, Bengaluru. This project work is submitted in partial fulfillment of the requirements for the award of the Degree of Bachelor of Engineering in Electronics and Communication Engineering. The result Embodied in this project have not been submitted to any other university or institute for the award of any degree.

Date:

Place: Bengaluru

Lokesh V

Shreyas M

T Rakesh

ABSTRACT

Nowadays people are driving very fast; accidents are occurring frequently, we lose our valuable life by making small mistakes while driving. So in order to avoid such kind of accidents and to alert the drivers i.e. to control their vehicle speed and traffic regulations in such kind of places the traffic police department have placed the signboards. But sometimes it may not be possible to view that kind of signboards and there is a chance for accident. Most accidents occurring on road is due to Traffic sign miss out, Speeding at restricted places and Overtake without judgement. In this project we propose a solution for these problems.

The first case of the project is to detect and recognize traffic signs in video sequences recorded by an onboard vehicle camera. Traffic Sign Recognition (TSR) is used to regulate traffic signs, warn a driver, and command or prohibit certain actions. A fast real-time and robust automatic traffic sign detection and recognition can support and disburden the driver and significantly increase driving safety and comfort. Automatic recognition of traffic signs is also important for automated intelligent driving vehicle or driver assistance systems. This project presents a study to recognize traffic sign patterns using RF transmitter and receiver interfaced with the Arduino microcontroller. The proposed system gives an alert with the help of buzzer and display.

Now a day's traffic rules are frequently violated by the drivers and over speeding occur due to bad driving behavior. But sometimes it may not be possible to view the signboards placed by the Highway Department to alert the drivers in such kind of places and there is a chance for accident. The main objective of the Project i.e. second case, is to design and develop a new system that can effectively detect speed limit on the road and supports the driver to obey traffic rules while driving by maintaining the speed of vehicle according to the speed limit prescribed by particular zone. It will use same RF technology as in case 1 and a control unit. The proposed system gives an alert with the help of buzzer and display. In this system, if over speeding vehicles don't get controlled manually, then system turns ON and will get controlled automatically.

Overtaking on rural roads often becomes dangerous when oncoming traffic is detected by the driver too late or its speed is underestimated. Recently proposed cooperative overtaking assistance systems, which are based on Vehicular Ad hoc NETworks (VANETs), rely on either real-time video transmission or the exchange of status messages (beacons). In this third case of our project, we demonstrate that the performance of an overtaking assistant can be significantly improved using a simple ultrasonic sensor and adaptation is undertaken by exploiting information. The proposed system gives information to driver on the display. It suggests the driver if it's safe to overtake or not; if so at what speed.