

A Project Report on

**SENSOR BASED IDENTIFICATION SYSTEM FOR VEHICLE
COLLISION AVOIDANCE**

Submitted in partial fulfillment of the requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS & COMMUNICATION ENGINEERING

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Learning is Supreme Deity

This is to certify that the Project Report entitled “**SENSOR BASED IDENTIFICATION SYSTEM FOR VEHICLE COLLISION AVOIDANCE**” is being submitted by **A.sailendra kumar(16A35A0410), P. Anjaneya varma(15A31A04B5), N. Vinod (15A31A04B3), B. Santhi Swaroop (15A31A0495)** in partial fulfillment for the award of the Degree of **Bachelor of Technology** in Electronics & Communication Engineering of Pragati Engineering College, for the record of bonafide work carried out by them.

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ABSTRACT

As the number of vehicles increasing day by day, accidents are also increasing rapidly. These accidents can be due to false estimation of nearby vehicle, disturbance in mind of driver or any reasons due to which driver can't keep focus on driving. So, not only the distance estimation of other surrounding vehicle is required but also to take quick actions is necessary to avoid any kind of accidents. The project is about vehicle collision avoidance system using an Ultrasonic sensor for a vehicle. We use the application of Electronic Embedded System in automobile which is expected to minimum the vehicle accident disaster. This project concentrates on developing a model of rear end vehicle collision avoidance system that will detect the distance between two vehicles moving in the same lane, in the same direction alert the driver whenever he or she in danger range using a microcontroller. The distance is measured by an Ultrasonic sensor used to sense the obstacle ahead.

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ABBREVIATIONS

IOT - Internet Of Things

RPI - Raspberry Pi

ARM - Advanced RISC Machine

SoC - System on Chip

GPIO - General Purpose Input Output

JTAG - Joint Test Action Group

HDMI- High Definition Multimedia Interface

ADC - Analog to Digital Conversion

VGA - Video Graphics Array

LCD - Liquid Crystal Display

LAN - Local Area Network

GSM - Global System of Mobile communication

USB - Universal Serial Bus

LED - Light Emitting Diode

RFID - Radio Frequency Identification

CSI - Camera Serial Interface

DSI - Display Serial Interface

NOOBS- New Out Of Box Software

SIM - Subscriber Identity Module

IMEI - International Mobile Instrument Identity

BTS - Base Transceiver Station

BSC - Base Station Controller

MSC - Mobile Service Switching Center

HLR - Home Location Register

VLR - Visitant Location Register

EIR - Equipment Identity Register

MODEM - modulator and demodulator

RS - Recommended Standard

IC - Integrated Circuit

AC - Alternate Current

DC - Direct Current

DTE - Data Terminal Equipment

DCE - Data Communication Equipment

CMOS- Complementary Metal Oxide Semiconductor

PWR - Power Key

GUI - Graphical User Interface