**ACCIDENT AVOID CAR**

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***Abstract* -**Road accidents often occur due to glare from high-beam headlights, which can temporarily blind drivers. To mitigate this issue, we have developed a prototype for an automatic headlight dimmer. This system detects approaching vehicles and automatically switches from high beam to low beam, reducing glare. It eliminates the need for manual switching by the driver, enhancing safety during nighttime driving.

***Key Words :*** *ARDUINO UNO,RELAY MODULE, IR sensor , motor driver , Gear motor .*

**INTRODUCTION -:** This project involves the design and implementation of an intelligent obstacle-avoiding robot car. The objective of this project is to implement a robot car, which while moving should have the ability to detect obstacles in its path and change direction where obstacles are present without any form of external influence. The application and complexity of mobile robots are slowly growing every day. They are gradually making their way into real world settings in different fields such as military, medical fields, space exploration, and everyday housekeeping.Motion being a vital characteristic of mobile robots in obstacle avoidance and path recognition has a major impact on how people react and perceive an autonomous system. This enables an autonomous robot to be able to navigate from one place to another without human intervention.

The requirement of headlight is vety common during night travel. The same headlight which assists the driver for better vision during night travel is also responsible for many accidents that are being caused. The driver has the control of the headlight which can be switched from high beam to low beam.

The headlight has to be adjusted according to the light requirement by the driver. During pitchblack conditions where there are no other sources of light,high beam is used to.The entire working of the dimmer is a simple electronic circuitry arrangement which senses and switches the headlight according to the conditions required.

**CIRCUIT DIAGRAM -:**

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Fig. of circuit diagram of car and headligt

**WORKING : -** Arduino is used to achieve the desired operation. The motors are connected through motor driver IC to Ardino .The ultrasonic sensor is attached in front of the robot. Whenever the robot is going on the desired path the ultrasonic sensor transmits the ultrasonic waves continuously from its sensor head .Whenever an obstacle comes ahead of it the ultrasonic waves are reflected back from an object and that information is passed to the Arduino uno . The arduino controls the motors left, right,back,front,based on ultrasonic signals. In order to control the speed of each motor pulse width modulation is used (PWM).When ultrasonic sensor detect the object which is kept inside the path it will send the signal toward the auduino uno and according to that it will rotate the motor .M3 and m4 in forward direction and rotate the motor m1 & m2 in reverse direction such way that the car get moving in left direction Similarly in every time when ever an obstacle in found to be in path of car it will detect it and rotate the ar in left direction to avoid the obstacle.

**AUTOMATIC HEADLIGHT DIPPER :-** An automobile headlight dimmer/dipper is a circuit which automatically switches the headlight intensities of vehicles arriving from opposite directions in a controlled manner.High beam from the headlight causes a dangerous situation during night driving.drivers that may lead to collision or sometimes it may lead to accident.Hence there is a need to design and construct a prototype of this device that automatically dims the headlights for on-coming vehicles using light dependent resistor sensing technique to help solve this problem.

**RESULT -:**

**Proposed Model-**

**CONCLUSION :**

Automatic headlight Dipper – The automatic headlight dipper system is a crucial safety feature in vehicles. By detecting oncoming traffic or ambient light condition , it automatically switches between hih beam and low beam headlights. This not only reduces glare for other drivers but also enhances the overall safety of nighttime driving . Implementing this technology can significantly improve road safety and prevent accidents caused by blinding high beams.

Accident Avoidance in Cars : Accident avoidance car system aim to prevent collision by alerting the driver or autonomously taking corrective actions. These systems use sensors, cameras, and radar to monitor the vehicle’s surrounding . features like automatic emergency braking . lane departure warning etc. severity of accident ultimately saving on the road .

**REFERENCES : -**

1. Introduction of accident avoid at <https://jhtransport.gov.in/causes-of-road-accidents.html>
2. Accident history at google
3. Images from <https://www.google.com>.
4. A Real-Time Vision System for Nighttime Vehicle Detection and Traffic Surveillance Yen-Lin Chen ; Bing-Fei Wu ; Hao-Yu Huang ; Chung-Jui Fan .
5. Online references from google and some books . **Mission Advanced Road Safety 2019–2024 (An Insight into Road Traffic Accidents on Indian Motorways)  (By -  Praveenchandra Shetty**