

Project: Obstacle «Avoidance vobot

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Introduction

Obstacle avoidance robots are atype eof robots designed to navigate and move in complex Environments that are filled with obstacles The Primary Your of these robots is to avoid Potential collisions with obstacles and maintain smooth and efficient movement

The design of obstacle avoidance votots relies on a variety of technologies and sensors to detect Obstacle and determine the appropriate actions to audid them some common sosenow user in these Vobotsia include

aultrasonic Sensor

@ Infrared Sensor @LIPAR (Light Detection and Ranging) Sensor

@ Camera

once the vobot detects on obstacle it employs Various algorithms and techniques to navigate around is it These may in clude Poth Planning alyorithms Such as the At algorithm or Potential field methods which calculate the optimal Path bosed on the detected obstacles and the robors gol goal 6

The functionality of the robot Car. This robot Car Can ovoid Obstacles, an ultrasonic sensor is mainly used the this purpose we can get the distance through this senson Also we can do this by colculating the obstacle distance range Northe Seron mater is vest to the labele the ultrasonic sensor left and right this robot uesd Small wood Plaque and wood design at alow cost So all these Components are controlled vio the Arduino Uno bord.

How togs does work

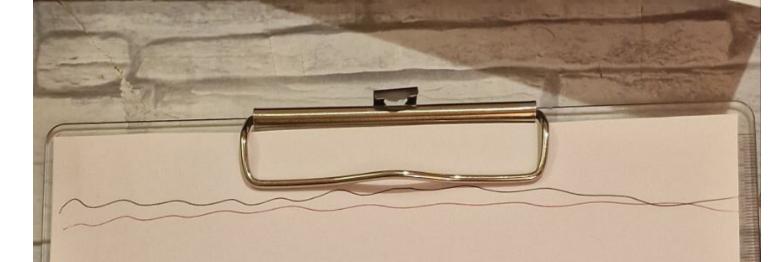
This Starts to move forward when the power is applied for the first time After the robot can then Stops when the Ultrasonic Sensor reaches a distance of less than 20cm After even through the seron motor the the distance to the obstacles on either Side Then to turn to the long-distance and go forward this Process continues step by Step Below are the components you need for this.

1- Arduino Uno Goard 2- Motor driver board L298N 3- Ultrasonic Sensor

48- Small Wood Plaque

5 - June wood Sticks

67 - For wives 78 - Po wer bank



Circuit Diagram

References

1- 3 SriTu Hobby blog

2- YouTube Arafa Microsys