

Obstacle Avoiding Robot using Arduino Sensor

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Abstract: *The project is designed to build an obstacle avoidance robotic vehicle using ultrasonic sensors for its movement. Arduino is used to achieve the desired operation. A robot is a machine that can perform tasks automatically or with guidance. The project proposes a robotic vehicle that has an intelligence built in it such that it directs itself whenever an obstacle comes in its path. This robotic vehicle is built using Arduino. An ultrasonic sensor is used to detect any obstacle ahead of it and sends a command to the Arduino. Depending on the input signal received, the Arduino redirects the robot to move in an alternate direction by actuating the motors which are interfaced to it through a motor driver. At the same time, we can control steering gear to realize the obstacle avoidance function. The robot car uses front axle steering, rear wheel drive arrangement. Two drive tires are driven by two DC motors with gear reduction mechanisms.*

Keywords: Arduino UNO, motor shield L293d, ultrasonic sensor HC-SR04, DC Motor, servo motor

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