ABSTRACT

Cars are the most frequently used means of transportation. Nowadays, smart car technology is starting to be applied by car manufacturers. Not without reason, this technology was created because of the high rate of accidents in cars due to the high speed factor. To minimize accidents, a robot car is designed that has a collision avoidance system function. The collision avoidance system with the fuzzy logic method will be applied to the mobile robot using the ultrasonic sensor HC-SR04 which functions to detect any obstacles/obstacles on the track.

This collision avoidance system uses the ultrasonic sensor HC-SR04 as a detection when there is an obstacle on the track and also uses a DC motor to control the speed of the DC motor which will be sent to the microcontroller for data processing using the fuzzy logic method.

The results of the design of the collision avoidance system above, then the output of the system in the form of a robot car can pass obstacles / obstacles on the track track based on fuzzy logic that has been determined.This system can run well with the percentage of the success rate of the robot car in avoiding obstacles on the track which is 84%

Keyword: *Mobile Robot, Collision Avoidance, Fuzzy Logic, Obstacle, Arduino Mega 2560.*