Autonomous path exploring and mapping vehicle

Introduction

- The autonomous vehicle model can identify the objects in its path and avoid them along with sending this data to a server
- The web server processes the data from the model and renders it onto a threeJS page to view the direction of the obstacles.
- Raspberry Pi is used to control the sensors and actuators of the vehicle model and is coded in python.

Component

Hardware

- Raspberry Pi
- ultrasonic Sensors
- motor driver

Software

- Node JS
- Three JS
- Amazon AWS
- Python (to program Raspberry Pi)

Future Scope

- Although this project mainly concentrates on integration of the hardware and software components in a basic level the use of advanced sensors like LIDARS and RGB cameras will improve the perception of the vehicle.
- The threeJS visualization used being the very basic one, using cameras will give much better visualizaition and understanding of the surroundings for the robot.

Thank You