ABSTRACT

This project consists of "**Design and Development of Autonomous Vehicle System**". The design is given special importance to satisfy the various functional and real life requirements. Functional design can promote skill, economy, conveniences and can compete needs and priorities.

The use of autonomous systems in the world to perform relevant and delicate the task is fast growing. However, its application in various fields cannot be over emphasized. This project presents an obstacle detection and avoidance system for an unmanned vehicle. The system consists of two (Infrared and Ultrasonic) sensors, an Arduino microcontroller and a gear DC motor.

The ultrasonic and infrared sensors are implemented to detect obstacles on the robot's path by sending signals to an interfaced microcontroller. The micro-controller redirects the robot to move in an alternate direction by actuating the motors in order to avoid the detected obstacle.

In conclusion, an obstacle detection circuit was successfully implemented using infrared and ultrasonic sensors modules which were placed at the front of the robot to throw both light and sound waves at any obstacle and when a reflection is received, a low output is sent to the Arduino microcontroller which interprets the output and makes the robot to stop.