

ABSTRACT

The use of robots has now been able to replace the role of humans in carrying out daily activities. The automotive industry has adopted many systems based on Artificial Intelligence which are applied to automatic steering systems or can be called self-driving.

This final will present a design of a robot that has the capability to make a turn based on programmed angles and follow the designated lane. The design will be using ultrasonic waves, that will in turn gives the robot the information it needed to stay in the lane as stable as possible. Also, the design will take fuzzy logics algorithm into account as to synchronize the robot with ultrasonic sensor. In the experiment that will follow, elimination of physical disturbance is required to minimalize other waves that could possibly interfere with swensitive ultrasonic sensor.

The result of this final project is a design of a system that has the ability to receive and transmit waves, that will provide the robot sufficient information to synchronize and make a decision to turn or stop. Consequently, the system is expected to help humans in general to do a better driving.

Keywords: *Fuzzy logics, ultrasonic sensor, Arduino Uno.*