

CHAPTER FIVE
CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Robots often need to move in an environment full of obstacles and need to determine a path to the destination and to avoid obstacles in its way with less power consumption and less time, some techniques, sensor and controller have been applied to fulfill the requirements of the robot, this system is one of many techniques that is used to achieve this goal.

This system uses a distance measuring to decide which direction is most suitable to avoid the obstacle it can detect the obstacles within the range 2 cm to 400 cm. Then determine speed and acceleration to reach the next one, and so it carries this process until it arrives at its final destination. The obstacle avoidance controller is a one input and two outputs system. The inputs are one proximity measurement of the obstacles distance in front of the robot, and the outputs are the velocities of the two wheels to the suitable direction to avoid crashing into the obstacle. The robot is driven by two independent DC motors to drive the robot in all four directions. The control system that was designed use fuzzy logic as method to program the avoidance obstacle car.

5.2 Recommendation

This project is recommended for whoever wants to continue in this side because it's very important to execute in real time as in bigger aspects. This is recommended to look in time in order to achieve the wanted results and the objective goals.

Suggested Future work:

1. Install a servo motor that would make the sensor movable in all directions, and that lead to faster obstacle detection in all directions.
2. More fuzzy logic rules lead to more flexibility.
3. Install a stepper motor which makes the system head in more directions.
4. Increase the number of sensors.