Abstract

A robot is usually an electro-mechanical machine which is guided by computer or electronic programming. Conventional line tracer robots follow path in given map. In some kind of robots path is already store in its memory and it simply follows that path. When such types of robots are left to traverse through any random maze, these robots tend to traverse all possible paths every time having no facility to remember the right path. In our robot we are providing it with the capability to traverse through any random maze and remember the right path. Thus when robot travels through the same maze again it knows which is the right path to reach destination. Also it can share this information with its other counterparts in the swarm of robots. This project depends on local path-planning algorithm using a human's heuristic and a laser range finder which has an excellent resolution with respect to angular and distance measurements is presented for real-time navigation of a mobile robot.
Reference

- James Bruce, Manuela Veloso, “Real-Time Randomized Path Planning for Robot Navigation”
- Owen Bishop, “Robot Builder’s Cookbook - Build and Design Your Own Robots”, Newnes
- Bruno Apolloni, “Machine Learning and Robot Perception”, Springer

Index Terms

Computer Science
Automation

Key terms

IR Sensor
PIC
Heuristic algorithm
DC
Motor
Encoder
Decoder
MPLAB IDE