

ECGR4161/5196, MEGR4127 – Introduction to Robotics

Lab Assignment #6 – Version 1.0

See Canvas for the due date/time

In this lab assignment will be done in pairs or individually. The main objective is to program your TI RSLK Robot to identify the closest location of a wall, drive towards it and stop 30 cm away, then turn and drive along the wall for 100 cm.

Submission type: Live demonstration and lab report (Must include your name and all requirements mentioned below)

Lab specifics

The following guidelines must be followed for the live demonstration to a TA:

1. Demonstrate the downloading of code to your robot
2. Set the robot down at a location identified by the TA (could be in EPIC 2130, could be in the hallway). The pose of the robot (way it is pointing towards the wall) could be between 60 and 15 degrees from perpendicular, towards the right of the robot.
3. With a press of a button, the robot should turn in place and look for the location where the robot is closest to the wall.
4. The robot should then turn so that it is pointing directly at the closest point of the wall from the robot.
5. The robot should then drive towards the wall and stop when the front of the robot is 30cm from the wall.
6. The robot should turn in place 90 degrees clockwise.
7. The robot should then drive 100 cm straight and stop.
8. The TA will record how close you end up to the wall, if you traveled 100 cm along the wall, as well as how straight the 100 cm line was driven.

Lab Report - Submission Instructions:

1. Prepare a file, output to PDF that includes:
 - a. Your name and your “partner’s” name (if applicable)
 - b. What the general objective the robot / apparatus is expected to perform, and
 - c. Commentary on the lab (lessons learned, problems encountered).
 - d. Attach your code to the end of the report, as detailed by TA Joey Phillips (video, document guidelines posted on the discussion area of Canvas). We want to see structure, indentation, and comments. Lots of comments.
2. Upload the PDF to Canvas, Lab 6 submission, one per lab group