ECGR4161/5196, MEGR4127 – Introduction to Robotics
Lab Assignment #7– Version 1.0 – Summer 2020

See Canvas for the due date/time

This lab assignment has one part and will be done individually. Note that, even though two students may work together, they must submit their own video and report.

Submission type: Video and lab report (Must include your name and all video requirements below)

Each person will take their fully assembled TI-RSLK MAX vehicle or "TI-BOT" as it will sometimes be referred to throughout the course, and follow a straight, then curved, then straight line (similar to the photo below). The final "straight" portion should continue towards a wall. The downward facing IR sensors, wheel encoders, and ultrasonic sensor can be used for this part of the lab. The vehicle should stop exactly 0.15 meters from the wall.

The specific instructions/requirements are:

1. You need to create a "course" which is a 20cm straight line (1.9 cm wide), followed by a curved line (appx 45 degree curve) followed by a 20-30 cm straight line. The end of the line should end at the wall. (I used 3 pieces of 8.5 x 11 paper)
2. The vehicle will be placed at the beginning of the straight line and travel following the line.
3. You may run at any speed.
4. The line must be followed with only 2cm variance from the center line.
5. The vehicle must stop 0.15 meters from the wall.

Lab Report - Submission Instructions:

1. Upload a Video to your YouTube account (or other location with a URL). Video only the robot moving AND stopping (make it short)
2. Prepare a file, output to PDF that includes:
    a. Your name
    b. Your "partner's" name (if applicable)
    c. What the general objective the robot / apparatus is expected to perform
    d. URL of the video
    e. (in report or video) Commentary on the lab (lessons learned, problems encountered).
    f. Include your code listing as text, courier font, 9 point.
3. Upload the PDF to Canvas, Lab 7 submission