EN605.613 Introduction to Robotics

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Assignment 1. Student Information Sheet & Setting up a ROS environment.

Student Survey

1. What programming languages are you proficient in? (e.g. Python2, MATLAB, C++, etc.)

I am currently most proficient in C++ and C, decently proficient in Python and MATLAB, and have some experience in Assembly and Verilog.

1. How would you rate your proficiency level in the following subjects?
   1. Linux OS
   2. Linear Algebra
   3. Calculus
   4. Physics

My proficiency in Linear Algebra, Calculus and Physics is undergrad/grad level. I have two bachelors degree, in Mechanical Engineering and Electrical and Computer Engineering, and have covered decent amount of ground in those classes.

For Linux, I have okay/decent experience using it as a desktop OS and in my work environment when we build software and Linux embedded systems.

1. What are you looking to get out of this course?

My passion has always been Robotics and I’m really eager to learn about the intelligence that goes behind robot planning, development, simulation, and programming.

1. Which topics listed on the class syllabus are the most interesting to you?

The topic that’s at most interest to me from the class syllabus is Reinforcement Learning as that’s all you read about these days and the crazy speed of development that it’s undergoing is very interesting to me.

Setting up ROS

Following the instructions in the ROS Setup Handout install ROS2 and the Turtlebot3 simulation on your machine. Then complete the following.

1. Document your system setup (Host OS, VM or Docker)
   1. Machine type (Desktop, Laptop, Cloud Virtual Machine)
   2. Host Operating system (Windows, Linux, Mac)
   3. ROS install type (Local, Virtual Machine, Docker)

My machine: Desktop

Host Operating System: Ubuntu 22.04

ROS install: Local

1. On a scale of 1-5 how difficult did you find the installation process (1 is easy, 5 is hard)?

The installation difficulty is around 2. That’s only because the link given in handout is for Ubuntu 20.04 and just had to do some searches to figure out which ROS version worked with Ubuntu 22.04 which I ended up going with ROS Humble Hawksbill.

1. Drive the robot to the opposite side of the obstacle field. Paste a screenshot below.

