ENGR 4421: Robotics II

Review and Preparation

01/13/2022

Outline

- Review
- Course Overview
- Git & Github

Review

What we have learned:

- DC Motor
- Motor Driver
- Raspberry Pi
- 3D Print
- Ultrasonic Distance Sensor
- Camera
- Linux
- Python
- ROS 2
- …

Review

Things we can improve:

- Use search engine
- Breakdown task.
- Write test code.

Overview

Things we will learn in Spring, 2022:

- Encoder & Lidar
- Gazebo Simulation
- Mapping & Navigation
- Artificial Intelligence

Overview

- Three team projects
  - Project 1: build a differential driving robot with ROS 2 remote control.
  - Project 2: Mapping and navigation using Lidar.
  - Final Project: Recycling robot.
- Several individual assignments

Assignments and projects can be updated through the whole semester. Grading standards will be more specific. Getting an “A” is will be more challenging.

Git & Github

- Git Tutorial: https://youtu.be/8JJ101D3knE
- Github Tutorial: https://www.freecodecamp.org/news/how-to-use-git-and-github-in-a-team-like-a-pro/