Principles of Robot Autonomy I

Section Logistics

Stanford University

Autonomous Systems Lab

Goals

- Provide hands-on experience for working with
    1. Hardware
    2. ROS2
    3. Software Development Workflows

Logistics

- Sections will be a combination of mini lectures and hands-on activities.
    - Mini lectures are made up of a minimal slide deck and live demos relevant to your hands-on activities.
- Done in groups of 3 – 4 people.
- CAs will come check with each group for each *checkpoint*.

Do I have to stay the whole time?

- Once you complete the activities and have all checkpoints verified by the CA, you are then free to leave.
- It would be highly appreciated if you can stick around and help out the other groups. This creates a great community!

Do I have to arrive on time?

- **YES.** Mini lectures during sections will contain crucial information for the hands-on activities.
- Section slides and the activity handout will be posted online, but live demos from mini lecture may not be recorded.
- We *will not* stay after hours.
- Consistently showing up late will impact your attendance grades.

Grading

- Allow to miss one section without grading penalty
- (24%) Section x 8
  - (2%) Attendance
  - (1%) Group Participation -- through peer evaluation at the end
- (16%) Final Section Demo
  - (4%) Code Style
  - (8%) Autonomy Stack Functionality
  - (4%) CA Q&A

Questions about Section Logistics?

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Section 1: Introduction to UNIX, Git, and Python3

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UNIX

- Take full control of your computer through terminal.

Git

- Track your software development.
- Say goodbye to
  - `pose_controller.py`
  - `pose_controller_v2.py`
  - `pose_controller_v2_broken.py`
  - `pose_controller_v3_working.py`

Executable in UNIX

- A.k.a. `.exe` for Windows
- Files with the right permissions

Python3 Debugging Tools

- `ipdb`
  - The most feature complete debugger
- `IPython`
  - Easy to use