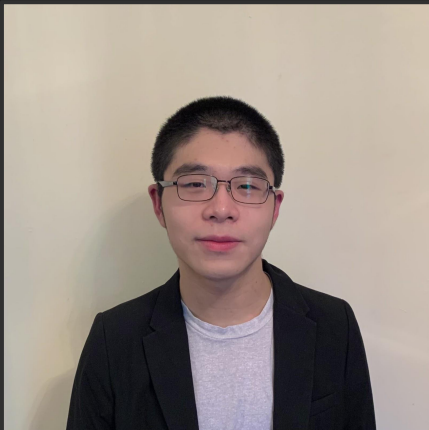


Car Robot Remote Control

Jimmy Huang | John Greaney-Cheng | Rohan Variankaval

Jimmy Huang



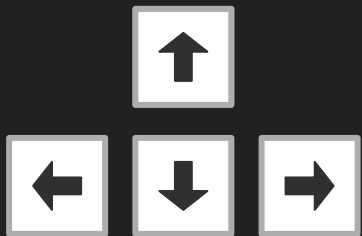
John Greaney-Cheng



Rohan Variankaval



Our Objective



Command Line Interface (CLI) Tool for Robot Control

- Allows for easy control of the robot remotely using the computer terminal
 - Arrow keys to control movement
 - Easy to read display of robot information

```
Move the Robot around with the arrow keys
Change linear speed with z
Change angular speed with x

Linear Speed : 0.500000
Angular Speed : 0.500000

Voltage      : 12.0V
Battery Charge : ###
Charge Status : ###

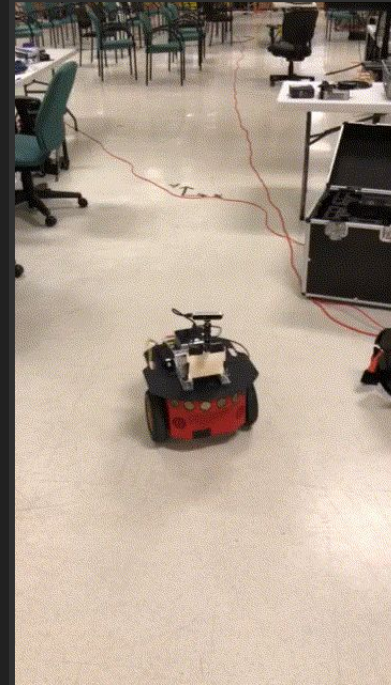
Odometry:
  x : 0.015000
  y : -0.000000
  theta : 0.003060

Quaternion Orientation:
  (l) x : 0.000000
  (j) y : 0.000000
  (k) z : 0.001530
  (Real) w : 0.999999

Motor Status:      Motor : ON

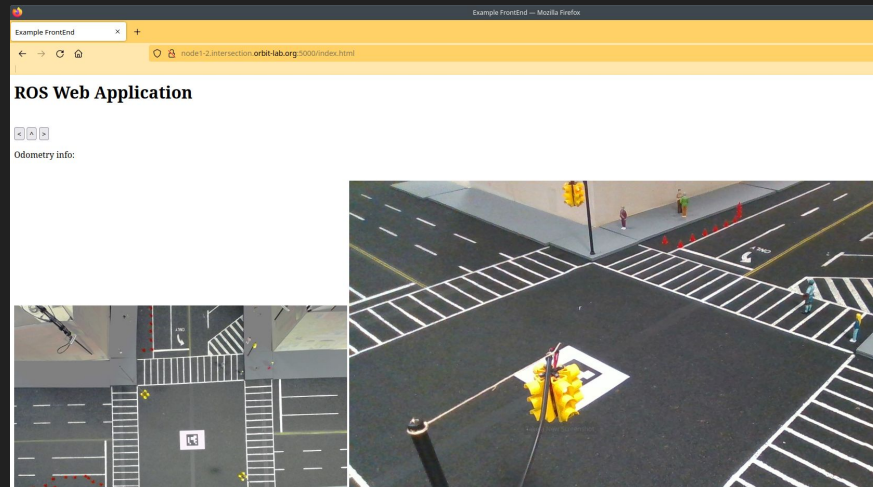
Bumper Status:
00000100000000000000000000000000
00000100000000000000000000000000

Press q to quit
[0] 6:python 1:rosAria-2:controller*          *car1w.intersection.or* 17:39 27-Jun-22
```



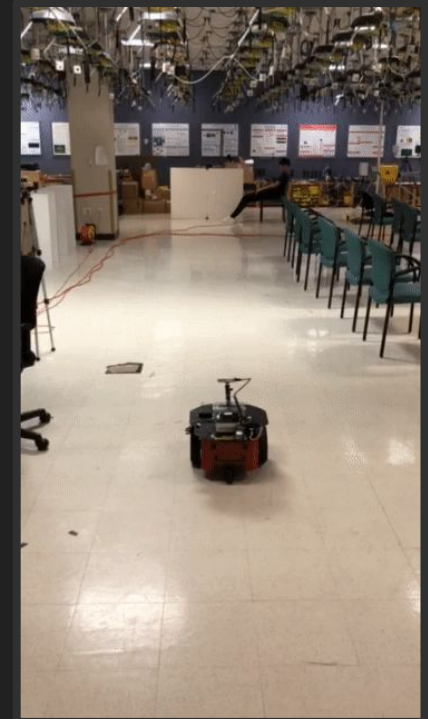
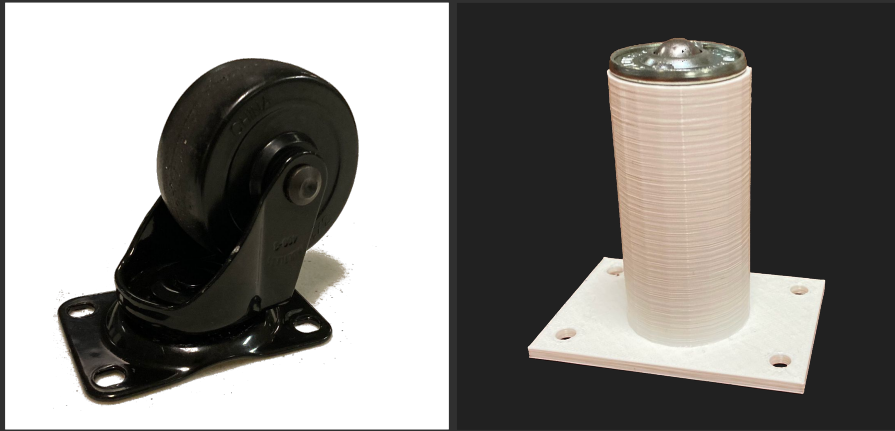
Web Server Graphical User Interface (GUI)

- Use web browser to view video streams captured by the robot
 - Includes similar features to the CLI tool except viewable on a browser



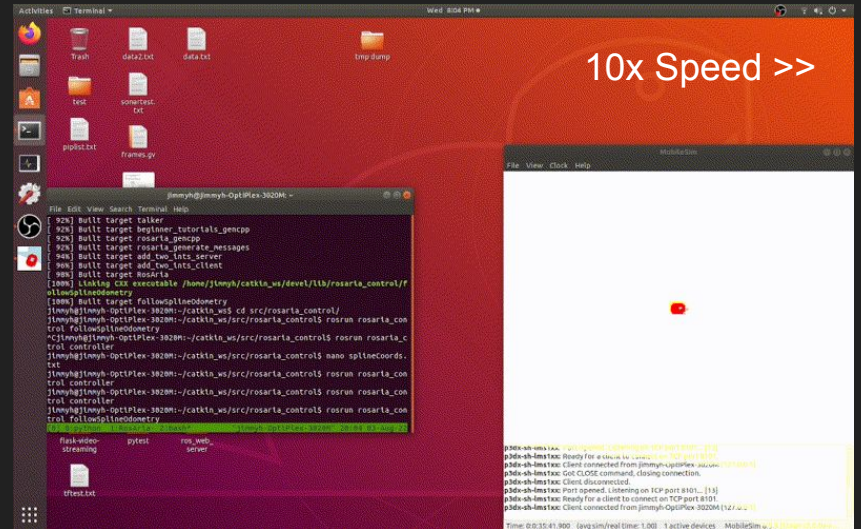
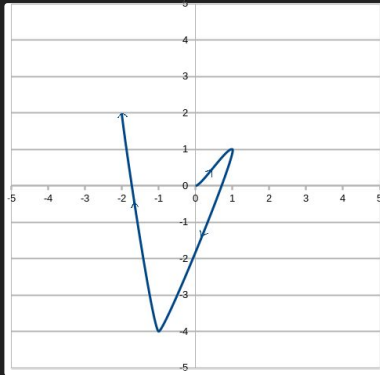
Robot Calibration

- Fixed the robot's tendency to drift preferentially right
 - Made a plastic mount for a ball wheel to improve precision
 - Changed DriftFactor value to 10 to correct drift to the left



Spline Path Movement

- Draws a smooth path between points
 - Allows the user to draw a path for robot control



Any Questions?