Self-Driving Vehicle Project: Week 6

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Zhuohuan Li (GR)   Anthony Siu (UG)   Sandeep Alankar (UG)

Who we are

Adas Bankauskas (UG)

Abia Mallick (UG)

Malav Majmudar (UG)

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Lohith Bodipati (HS)

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Project Objectives

- ❖ Build a fully functional self-driving vehicle
- ❖ Incorporation of ROS control into existing car software
- ❖ Use of AI/machine learning algorithms for self-driving behavior
- ❖ Use Gazebo to map out simulations
- ❖ Building the actual vehicle at WINLAB and testing its autonomy in a real environment
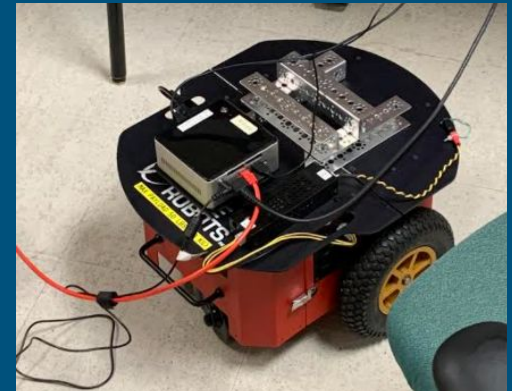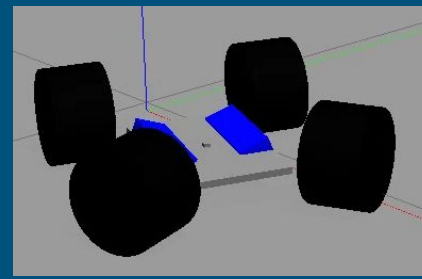
Current Progress

❖ Visited WINLAB

➢ Examined physical model's hardware and compared with previous rigid steering models

❖ Accessed Gazebo code from previous year's GitLab repository

➢ Created catkin workspace and controlled Gazebo robot through terminal commands

➢ Tested different neural network architectures to maximize steer prediction accuracy

Future Plans

- ❖ Build a simulation model of the scale intersection at WinLab
- ❖ Further expand on the 3D Gazebo model
- ❖ Directly access and interact with various robots at WinLab using ROS
- ❖ Implement RealSense cameras to the vehicle that are able to communicate remotely over SSH
- ❖ After Teensy Board is installed on the vehicle, we can experiment and test with its odometry in the Smart City space

Any Questions?