




# Self-Driving Vehicle Project: Week 5

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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)

Who we are

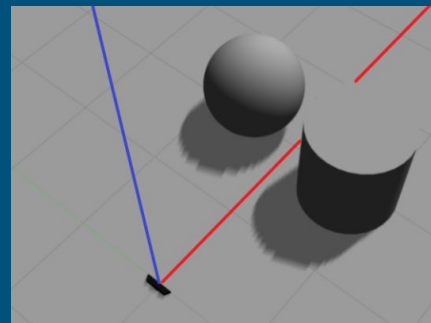
# Project Objectives

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- ❖ 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
- ❖ Building the actual vehicle at WINLAB and testing its autonomy in a real environment

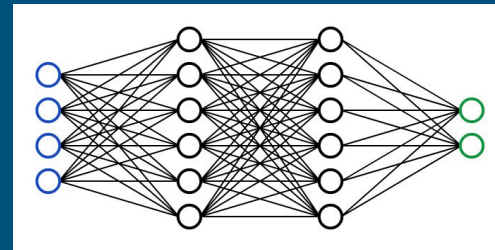
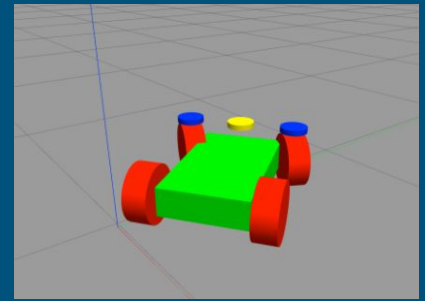
# Current Progress

- ❖ Finished Gazebo Simulator tutorial
  - Learned how to record and playback simulations, apply force and/or torque to models, connect to Player, use physics engines to achieve desired behavior, etc.
- ❖ Accessed Gazebo code from previous year's GitLab repository
  - Looked over algorithms and simulations built for vehicles that use Ackermann steering
  - Installed and experimented on model



# Future Plans

- ❖ Start building simulation environments for our robot
- ❖ Consider different types of steering to implement in digital model
- ❖ Research how to extract position data from digital sensors to ensure that robot does not collide with surroundings
- ❖ Learn self-driving machine learning algorithms for our vehicle to learn from its surroundings and become autonomous
- ❖ Learn about different types of neural networks and pick the correct type for our model data



Any Questions?