Virtual ROS Based Self-Driving Car Model
Team

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Project Objective

- Implement self driving behavior in a virtual city environment
- Use of machine learning algorithms to develop self driving behavior
What is ROS?

- The Robot Operating System (ROS) is a flexible framework to simplify the task of creating complex and robust robot behavior.
- Building blocks - Nodes & Topics/Messages
Data Collection

GET ALL THE INFORMATION YOU CAN, WE'LL THINK OF A USE FOR IT LATER.
What was the data for?

- Our model needed to learn how to drive using camera images and steering wheel positions.
- The more data the model studies, the better the model could drive itself.

How did we collect data?

- Recorded driving segments in our simulation.
- Stored our steering and image topic data in files called bagfiles - a ROS built-in for collection.
Machine Learning/AI Incorporation
What is the model?

Steering Value
-0.053
Self-Driving Pipeline

Node 1: Prius

Node 2: Predictor

Node 3: Drive

Topic 1: /image_raw

Topic 2: /steer

Steering Value: -0.053

Has the model inside
Training Results
10 Epochs - 15 Bagfiles

20 Epochs - 37 Bagfiles
Thank you!