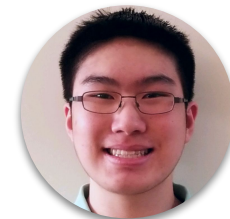# Self-Driving Vehicular Project
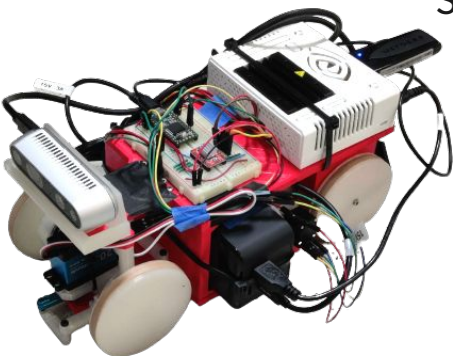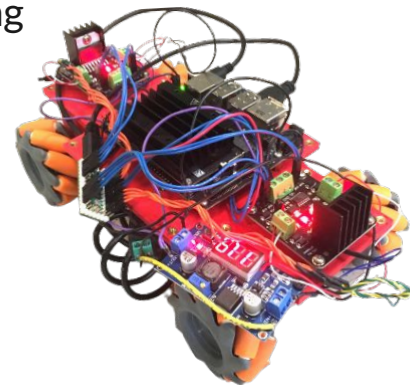
Vineal Sunkara

Arya Shetty

Tommy Chu

Aaron Cruz

Brandon Cheng

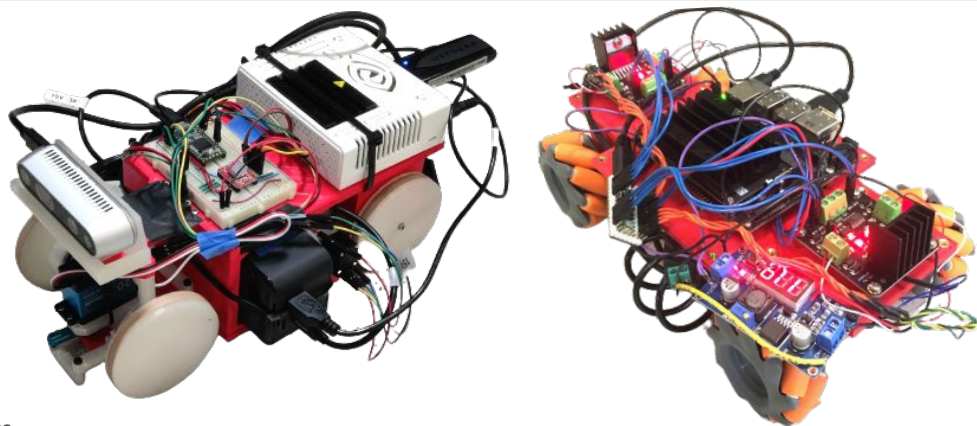Advisors: Ivan Seskar and Jennifer Shane

Project Background

Smart City self-driving

RASCAL (Robotic Autonomous Scale Car for Adaptive Learning)

- Neural Network

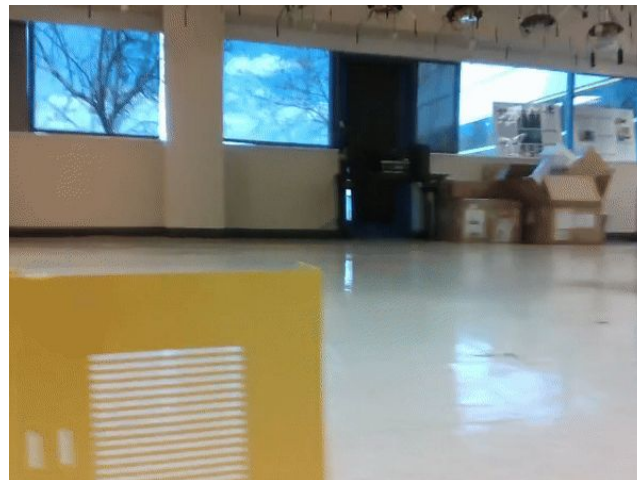SCAMP (Self-guided Computer Assisted Mecanum Pathfinder)

- NPC

This Week's Progress
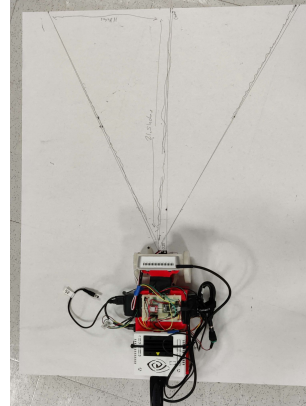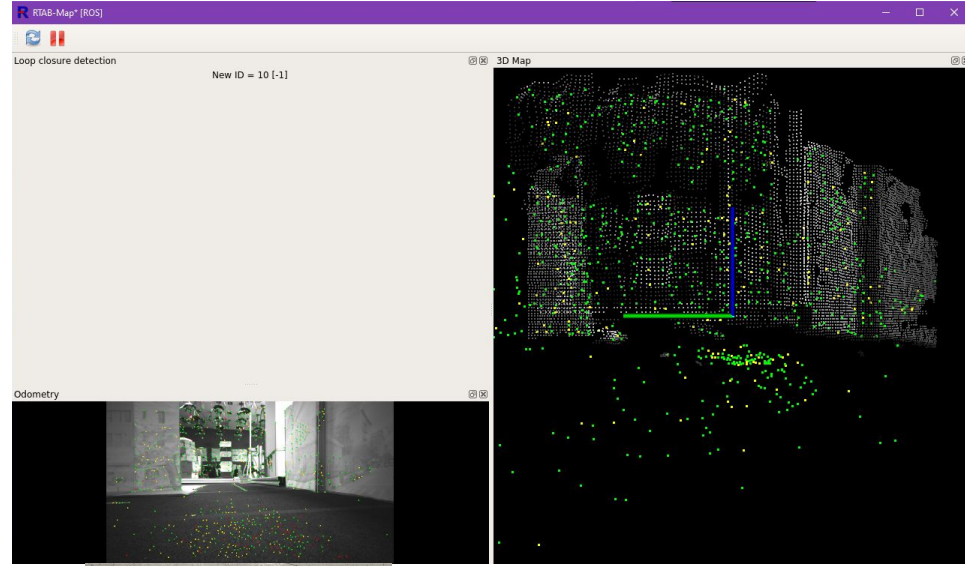
Intersection Server

PyTorch MNIST Model

Turn Detection Model

This Week's Progress
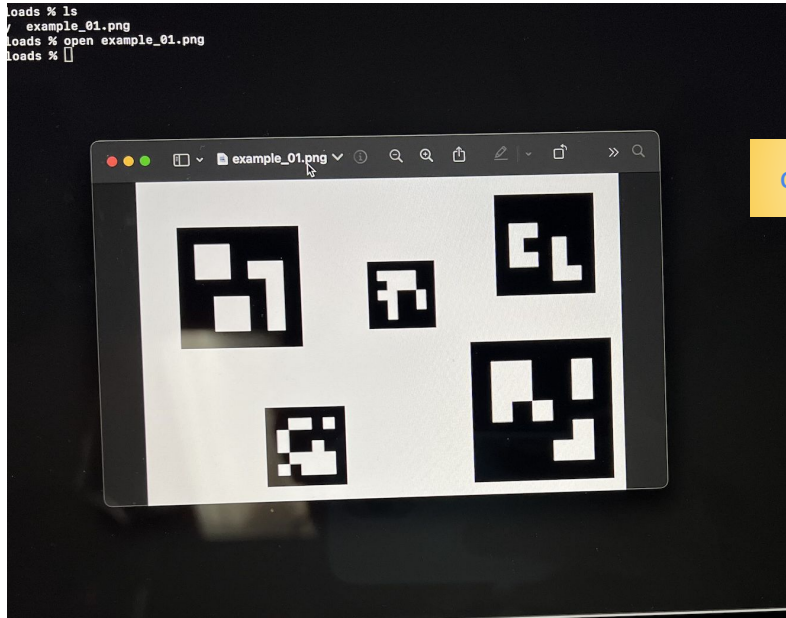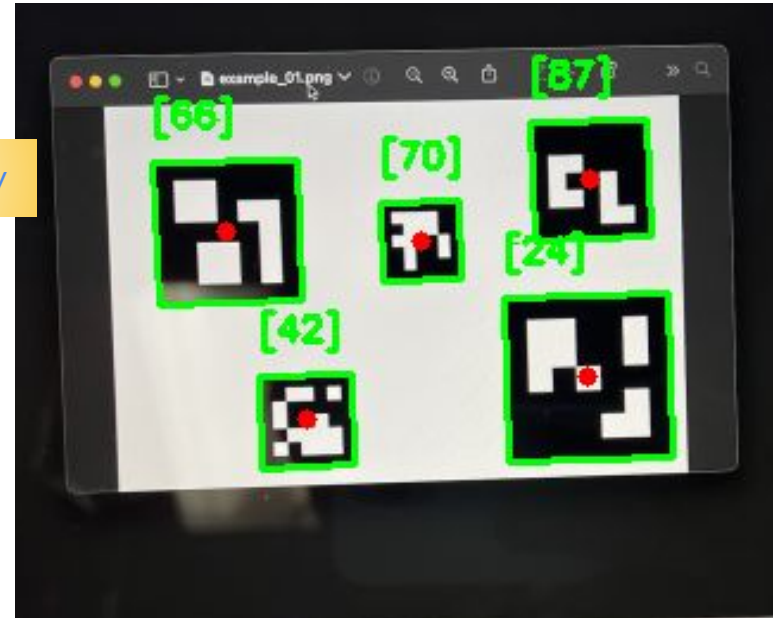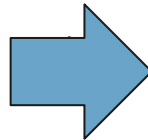
Visual Odometry

RASCAL FOV map

This Week's Progress (cont)

Side Quest! Detecting Aruco Markers

End Goal: → Estimate car pose → Calibrate car position
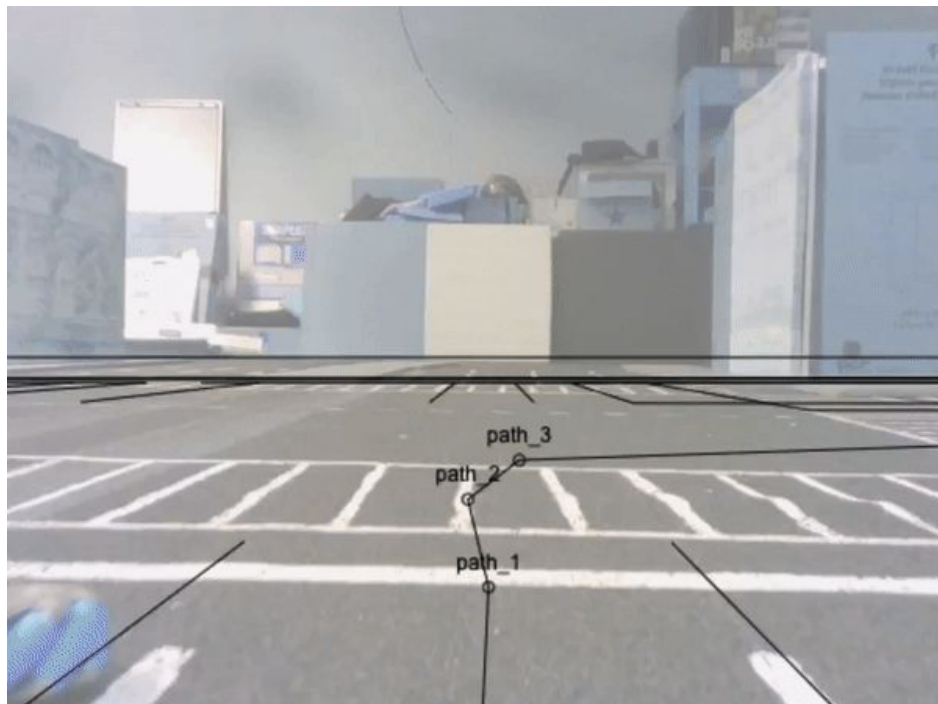

detectAruco.py

This Week's Progress (cont)

Prior Work: Pure Pursuit controller

Goal: Visualize data from car's POV

- Camera feed display

- perspective projection

Next Week's Goals

- Regression model
- GPU server training
- Train on simplified test track (Road Test)

Thank you!

Any Questions?