

Nellie the Navigator

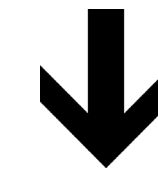
Ariana Chae and Sharon Grimshaw



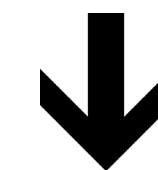
The Goal: to drive the NEATO robot using voice commands, but give the NEATO certain visual cues that will override the voice commands to elicit a behavior

Real-world Application: a voice-controlled car that automatically avoids obstacles and obeys traffic signs

Obstacle Avoidance



Color Detection

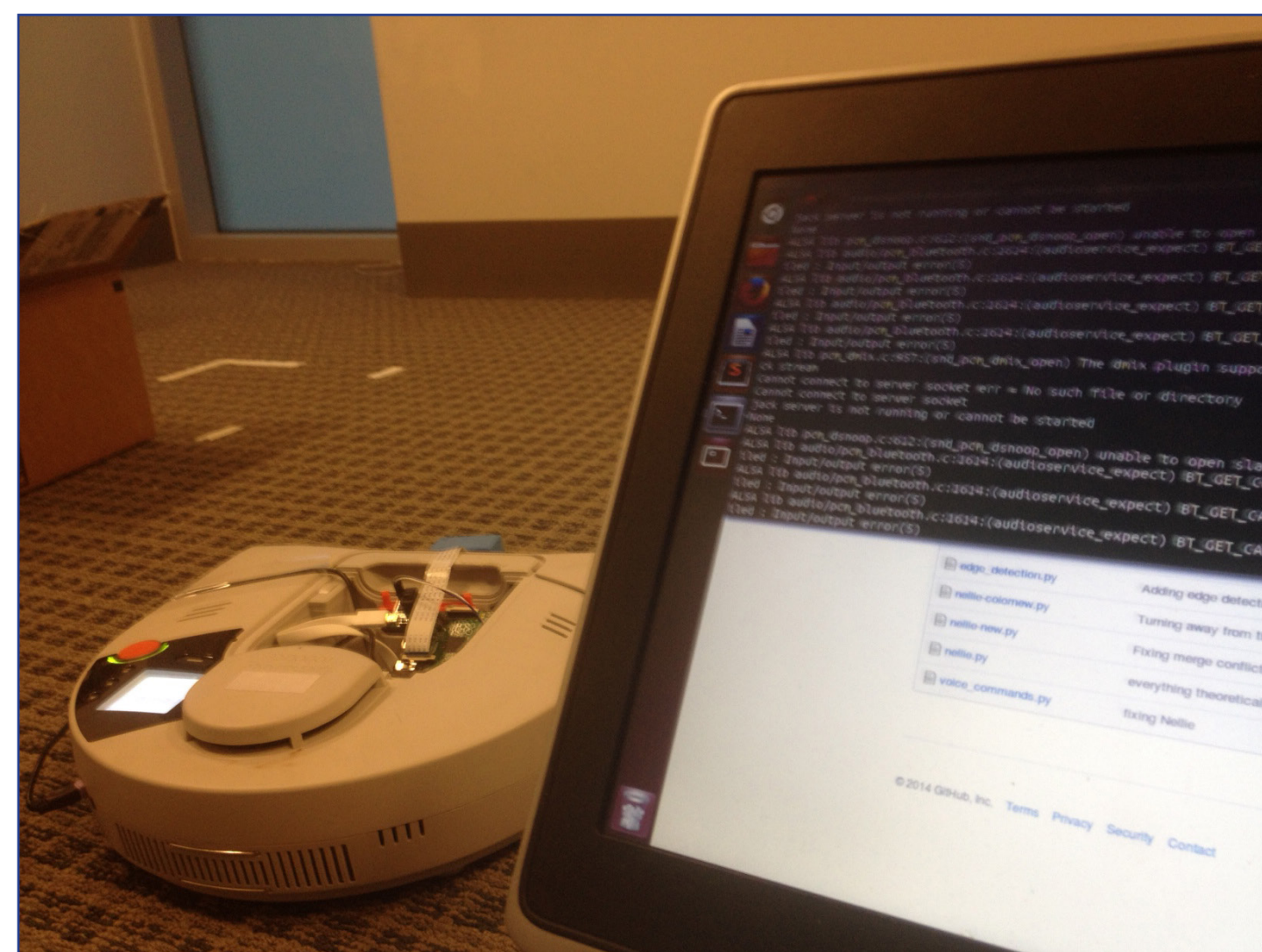


Voice Recognition

Voice Recognition

How It Works:

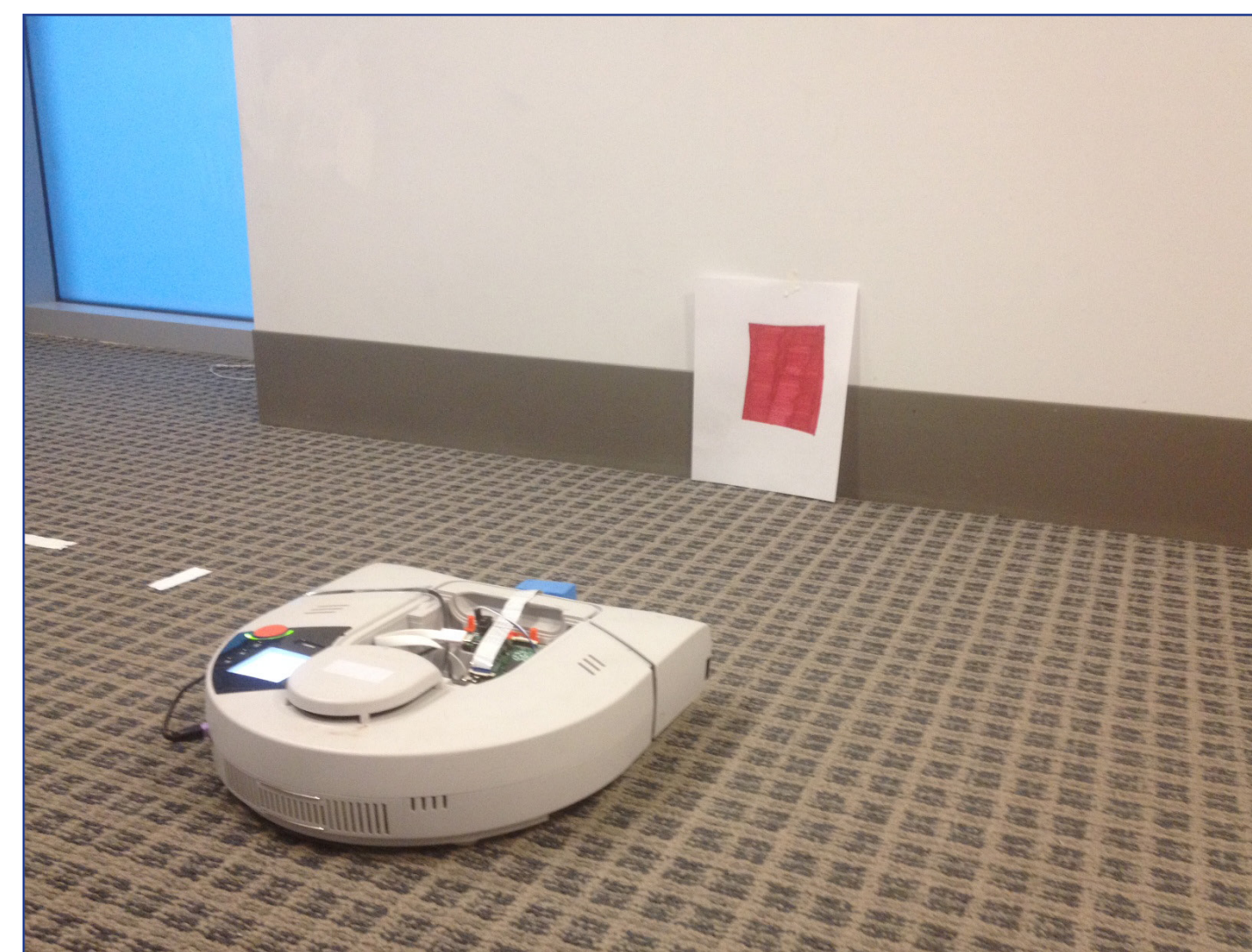
- Google speech API
- computer microphone to detect sound
- speech-to-text processing



Color Detection

How It Works:

- cv_bridge to convert from ROS to CV
- inRange to detect red
- findContours to get size of red sign
- time.sleep to pause at stop sign



Obstacle Avoidance

How It Works:

- LIDAR to detect closest obstacle
- average points in front of NEATO
- avoid if obstacle is too close

