Daily Log

Monday January 6

Worked on data gathering program. Instead of having the LIDAR sensor spin for a set time, Tony made it get a set number of data points. I started with 500. Will upload to GitHub and run next class.

Wednesday January 8

Snow day!

Friday January 10

We are inexperienced with the deeper intricacies of Git and we were having an issue committing our code. After successfully accomplishing what we wanted to do after the first third of the period, we tried running the data logging program and debugging it. After figuring out that the Pi's SD card was a little loose, we ran the program and it worked as we intended. We were able to get readings from the LIDAR sensor and two potentiometers, and log it into a text file. However, two minutes after our first successful run we got error messages. We think this is because every time the LIDAR sensor is plugged in it gets a new USB name. We also don't have a way to stop the LIDAR sensor other than physically unplugging it.

Timeline

Date	Goal	Met
Today minus 2 weeks	Have the Raspberry Pi gather Lidar data	Yes
Today minus 1 week	Find a way to gather steering, throttle, and Lidar data at the same time	Yes
Today	Find a way to gather Lidar, steering data, and throttle at the same time	Yes
Today plus 1 week	Make the collection of data wireless using the XBees	No, but have been able to send sample strings back and forth using the XCTU software
Today plus 2 weeks	Make the collection of data wireless using the XBees	No, but have been able to send sample strings back and forth using the XCTU software

Reflection

We made a big step in our project this week with getting a successful run of the data logging program. There is still work to do, particularly with getting the USB names sorted out, but we got one good run. Over winter break, I also made significant progress in coding an RNN with some training data I got from the video game Super Mario Kart. Obviously, the video game is in no means indicative of real-world conditions, but seeing as we are approaching third quarter soon, I figured it would be beneficial to have some knowledge creating and experimenting with RNNs via Keras. This way, we won't have to waste time debugging issues with creating the Neural Net once we have our training data collected.