

Trevor Decker

Team B: The Monkey Bots

Teammates: Steph Chen, Ian Hartwig, Ian Rosado

ILR04

February 26

Individual Progress

This week I worked on developing and refining the vision system for tracking the 8020 frame of the window. It uses a blue light mounted on the camera to illuminate the 8020, this makes the 8020 change colors. Additionally the 8020 is very reflective so it is easy to pick up. I then try to fit the thresholded points to fit inside a rectangle. I then apply it to an svm to classify if the rectangle is 8020 or not.

I also worked on refining the Cad model of our robot by adding the assembly for sliding the cleaner along our arm. It can be seen in figure 2. and Figure 3.

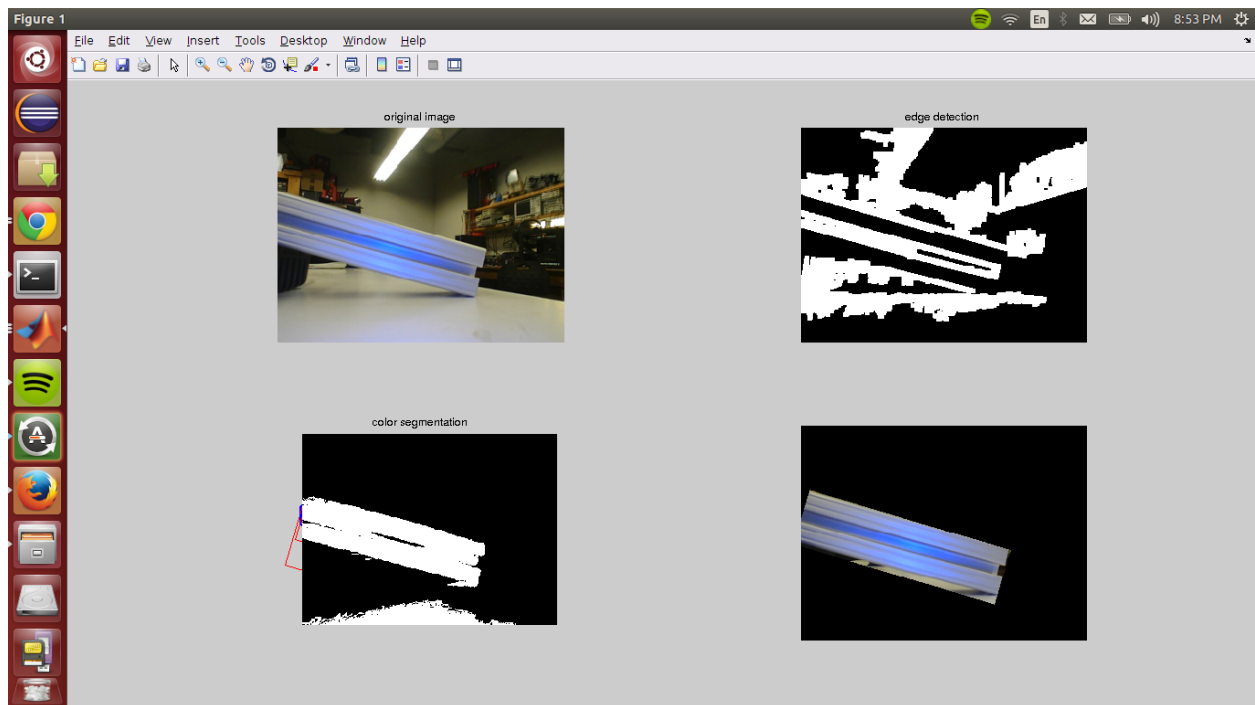


Figure 1: shows the vision system that I created which parses out environment so that only the 8020 which is being illuminated by a camera. This will be used to figure out the location of the robot on the window.

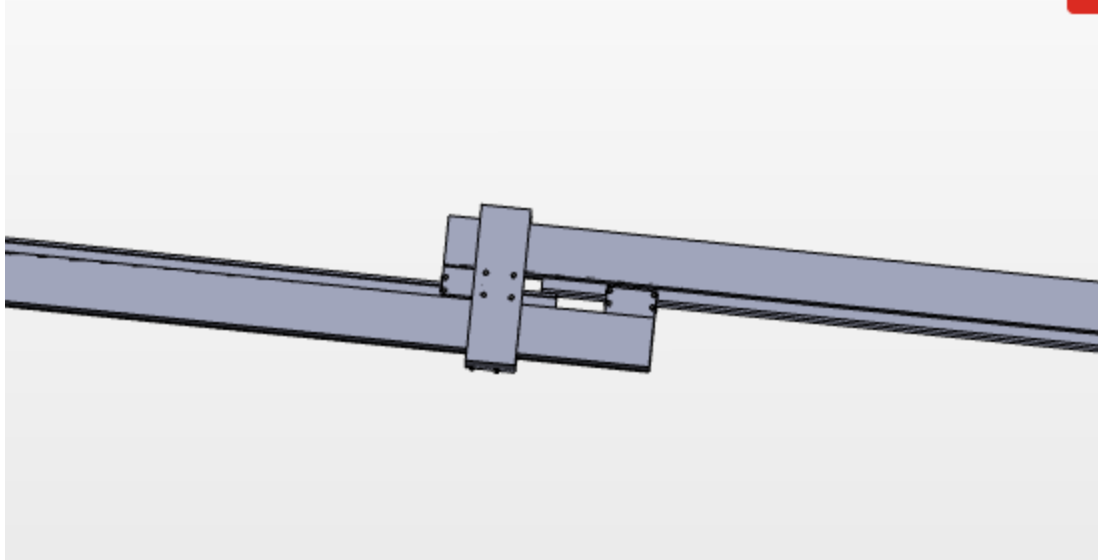


Figure 2. shows the entire robot assembly with the cleaning units included

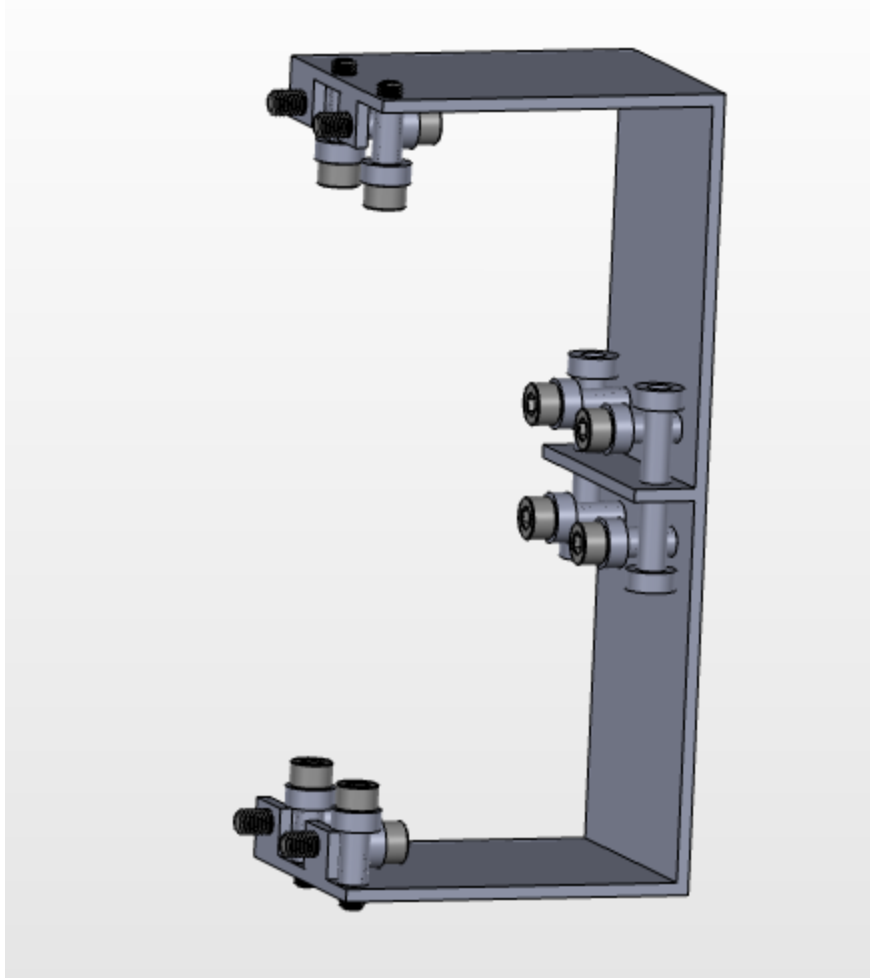


Figure 3: The cleaning unit that I cadded. This shows how the bearings will be placed for the cleaner to roll along the arm.

Challenges And Issues

We are running out of time, other than spring break and carnival we only have 5 weeks until the robots demo. We do not yet have a finished cad model of the entire robot so we can not yet order all of the parts we need.

Additionally the gripper that we have been working on does not work. It can not hold up its own weight yet alone the weight of the entire robot.

Teammate Coordination

I worked with Ian Hartwig on the design of the cleaning unit.

I also worked with Steph Chen and Ian Hartwig on the website that we submitted last friday

Plans for Following week

For next week I plan to finish the cad of the cleaning unit.

We will have a working gripper prototype

We will have a presentation to present for the mid semester presentation.