

CSE 460 Mobile Robotics - Lab 4

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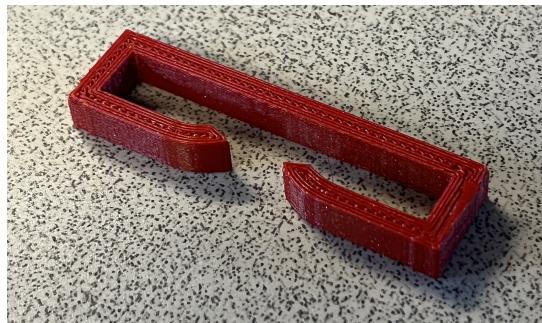
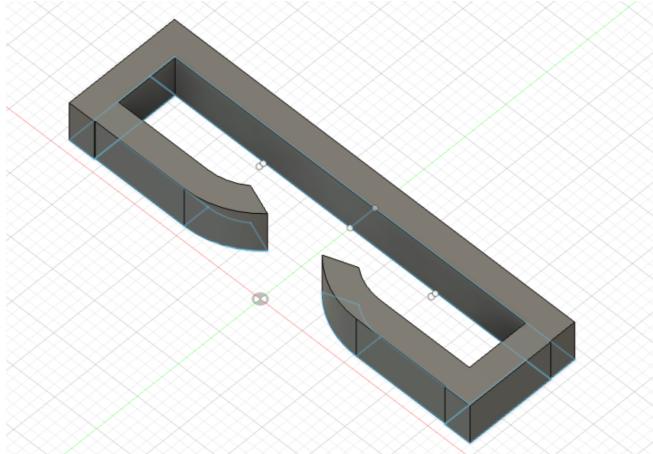
Abstract—Lab 4 report for CSE 460 Mobile Robotic with Professor David Saldaña.

I. PROTOTYPING AT WILBUR POWERHOUSE

My shovel design is influenced by the idea of a funnel. Essentially, the idea is that the shovel entrance is perfectly sized such that it fits a rubber duck with very little room. Then, as the robot moves the ducks will feed into the storage area of the shovel as they will be forced to with no where else to go. Having the rounded entrance helps guide the ducks into the funnel-like entrance of the shovel, but also acts as a barrier that makes it hard for the ducks to get out of the storage area. After arriving to the safe zone, the robot can simply lift the shovel leaving the ducks behind.

II. 3D DESIGN

Due to the lengthy time it takes to print, I chose to print a very miniaturized version of the shovel. This is also an effort to save cost in addition to time as I will figure out the best design and print the full-size for the midterm if this is the direction we go in.



III. LASER CUTTER DESIGN

The laser cutter at Wilbur was having some issues on Friday when I went to complete the lab, so I chose to assemble the design from paper, which is still able to encapsulate the same design idea.

