Journal Report 9
11/11/19-11/15/19
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Daily Log

Monday November 11

We listened to the last presentation. I decided on my winter goal to be able to identify the cube's state in the program given a clear picture from the perfect angle of a cube. I continued researching about hough transformations.

Tuesday November 12

I created a github account and learned how to use it with a tutorial. I pushed all my current code. I also edited the edge detection code to make sure the lines were clear enough to use hough transformations on.

Thursday November 14

I was researching and found a hough transformation implementation guide online. I coded it up, ran it for an image of a regular pentagon, and saw a bunch of black lines, and wasn't sure how to interpret the results. I realized this was for line detection, while I needed square detection. I did more research and found a few pdfs that help a lot with interpreting the output image, and information specific for square-detection.

Timeline

Date	Goal	Met
Winter Goal	Be able to identify the cube's state in the program given a clear picture from a good angle of a cube	
Today minus 2 weeks	Identify the colors of the centers of the squares in the visible edge detected image. Use this to determine the orientation of the cube in the image.	No, turned out to be harder than I expected. It's hard to determine the colors of center squares.
Today minus 1 week	Identify the coordinates of many points in the centers of the squares in the visible edge detected image.	No, it was hard to find coordinates of points in each of the squares just based on the edge detected image. Need to distinguish squares from each other.
Today	Finish implementing Hough Transform or Shape Detection on the edge detected image	Yes, but wasn't sure how to interpret the results.
Today plus 1 weeks	Finish implementing Hough Transform for Square Detection on the edge detected image, and be able to interpret the results of the output image	
Today plus 2 weeks	Use this to find the coordinates of many points in each of the squares on the cube.	

Reflection

This week, I learned how to use github, and made my progress for the future until winter break more clear. After failing with one implementation of hough transform, I did more research. From the pdfs I found while researching, I have a more clear idea of how I'm going to proceed with detecting the squares on a picture of the cube. I'm also going to learn, from the pdfs, about how to interpret the output image of the hough transform, and use it to determine the locations of the squares in the image. I also edited the edge detection code a little to make it easier for the hough transformation part.

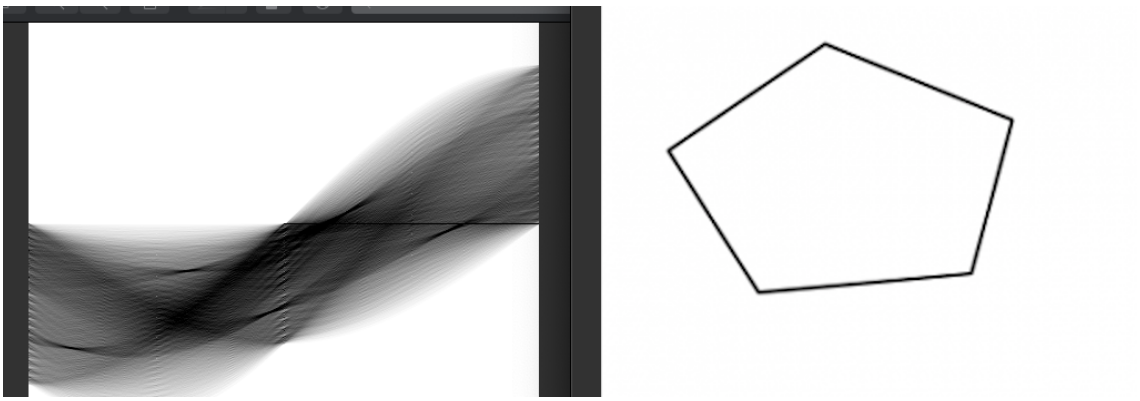

Figure 1: An image of the pentagon and its hough transformation output