Journal Report 6
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Daily Log

Monday October 7

Today, I encountered an issue where Windows became suddenly incompatible with VMware. I did some research and found out it was an issue with a windows update, and uninstalled the update which was causing the problem. I then went through the virtual machine and made sure everything was still running properly.

Tuesday October 8

I started by installing pytorch and started using it. I spent the class period working on coding a basic model using randomly generated data resembling a line as a training set. To this end, I created a class which creates the model itself, and methods to reduce error and plot a given line.

Thursday October 10

I finished up coding each method for the pytorch model, but when running the best fit line, I got relatively high loss values. I spent the rest of class playing with parameters like epochs and learning rate to try to fix the issues, but couldn't find the issue by the end of class. I decided to instead do more research on libraries that I hadn't used before that could help me.

Timeline

Date	Goal	Met
Today minus 2 weeks	Finish edge detection on all images gathered	Yes, was successful in creating clean images that were run through edge detection, and outputting them as jpgs.
Today minus 1 weeks	Be able to output height for all images, and also display some sort of visualization for height over time	Yes, was able to display the detected height of all my images eventually.
Today	Work further on processing height data with data analysis, such as regressions.	Tried to train a model to perform linear regression, but have not finished
Today plus 1 week	Debug the issues with the linear regression model	
Today plus 2 weeks	Start on the web application design to implement the data processing and edge detection into	

Reflection

This week I ran into some difficulty in trying to train my own model for linear regression. I have experience with pytorch so I tried applying it to this problem. I tried to train a simple model to create a best fit line for random, but it's turned out not very accurate, despite running quite quickly. It could be because of my data or the parameters I used, but I believe that I'm just missing something in my code. When I refine my process with a new batch of plants, I hope that this model can better reflect growth.

Currently, I have two options that I will pick between. Continue to try and debug my current model, or use a model someone else made. Since this week is short, I will spend it on just trying to finally finish this part of the project. The model that I picked out to use is scikit, which seems to be much less complicated to use and requires less coding. If I can't figure out the issue in my code by the end of class Tuesday, I will go with this. If however I do manage to get the basic model working, I'll spend the rest of the week applying it to the data in my edge detection code.