Journal Report 7
10/15/19-10/24/19
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Daily Log

Tuesday October 15

I learned that I was not updating my loss values while printing, which is what was making the model look like it wasn't improving.

Thursday October 17

Now with the model printing correctly, I adjusted the parameters of my model. A learning rate of 0.0001 and 1000 epochs got me an optimal linear regression on my sample set.

Monday October 21

Spent today copying over the code from my trial model into my main code. I made sure to separate them into methods to make debugging in the future easier.

Tuesday October 22

I ran into a few errors that were a bit hard to interpret. I spent a while comparing my code to my previous test model and also some pytorch documentation, and found that my error was that I needed to make the training sets tensors instead of regular python lists. After changing this, I was able to get a linear regression, although it wasn't as accurate as what I had with the previous model.

Thursday October 24

I spent today cleaning up my model. I found a good loss value of 0.01 from using a learning rate of 0.01 and 1000 epochs was enough to get the best linear regression possible. I spent the rest of the day communicating with my partner on how we wanted to proceed.

Timeline

Date	Goal	Met
Today minus 2 weeks	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 minus 1 weeks	Debug the issues with the linear regression model	Managed to get the model to work
Today	Apply the linear regression model to the tomato data I collected	Yes, got a linear regression with a decently low error for my plant data
Today plus 1 week	start working on the web application	
Today plus 2 weeks	finish a home/landing page for my web application	

Reflection

For the first week, I managed to fix up the issues I had with my test linear regression model. Unfortunately, I wasted a lot of time off a silly error with a print statement, but I'm glad that I was able to fix it eventually.

This week, I found a few issues with transferring the model so that it worked with the data I had. It took some research, but I was able to identify the issues and learn a bit more about using pytorch. After fixing those errors though, I got quite a good linear regression. I was satisfied with what I got since it accurately displayed the upward trend of the plant growth data, but I may add more in depth analysis if I have time at the end of the project.

For the upcoming weeks, my partner and I want to follow our original schedule and work on creating the front end of our application. This will be in the form of a web application that makes it easy for a user to access their statistics. Hopefully, we'll have the time to polish the looks of the app, but a basic one would fit the project just as well. If we have more time, we could move to android, but I would rather have a nice looking web-page first. I think making the website will take about a month, and implementing my current code into the website will take an additional amount of time. After that, we will focus our work onto the plant disease neural network for the remainder of the year.