Journal Report 18
2/23/20 - 3/1/20
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Daily Log

Monday February 24

Absent

Tuesday February 25

Ran the code on the GPU and used the better weights to test on the original video. After trying a couple of different images trained on around 20000 iterations of weights, I was able to detect the ball! This was a huge accomplishment and proved that my code was actually working. Re-ran the code to train on darknet overnight before the end of class.

Thursday February 27

Tested the new weights, this time around 500000 iterations, on the original video. The program was actually pretty accurate and could track the ball as it moved through the Perplexus. For the rest of the period, I worked on integrating the prediction code with the rest of my motor-chassis interface.

Friday February 28

Khushi and I met during 8th period to attempt to sync our two portions. I converted the code she wrote in GPIO to gpiozero, but unfortunately the motor was not able to move. When we ran the code, we felt the motor vibrate, but the axis did not physically turn. The interface - Pi - motor system did seem to work, however, and we hope to debug whatever motor issue there was in the coming week.

Timeline

Date	Goal	Met
Today minus 2 weeks	Obtain a higher accuracy on YOLO	No, I'm still working on debugging
Today minus 1 week	Train the network with more data	Yes, I annotated more points and am starting to train on the GPU
Today	Test the algorithm on the Perplexus chassis system	Yes, I was able to sync with Khushi and test the trained network weights
Today plus 1 weeks	Integrate the machine learning code into the interface	
Today plus 2 weeks	Have the user be able to control the Perplexus by pressing button on computer	
Final Goal	Have a user be able to move the Perplexus in 360 degrees and solve using computer commands	

Reflection

Big week! It was cool to see the ball detection code finally work, it was like my manual labor finally paid off. After syncing with Khushi, we hope to make more progress on the motor connection front and start to test our code on the physical chassis system in the coming weeks.