Journal Report 5
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Daily Log

Monday September 30

Researched possible alternatives for operating a Linux environment on a Windows computer. Found different versions of Darknet that should work for Windows, ended up moving files to that version.

Wednesday October 2

Set up and fixed issues with Linux virtual machine on laptop. Installed 1st version of Darknet and was able to get basic commands to run in bash. Began setting up rewriting config files for Linux system and reorganizing images sets to more appropriately match Darknet's requirements.

Friday October 4

Repeatedly ran into issues with run-time errors regarding reading in the images, switched over to a modified version of Darknet that should (hopefully) run on Windows OS as well as members of the Linux family. Reconfigured Darknet to run with Yolov3-tiny instead of standard Yolov3 for testing purposes and speed. Fixed issues with Darknet crashing after loading in pre-trained weights. Was able to successfully begin training neural net on custom image set of my own photos, though notably slow, especially for Yolo.

Timeline

Date	Goal	Met
September 23	Be able to successfully run Darknet on selected group of images, work on attaching Darknet commands to GUI	Was not able to get Darknet to run on a set of images due to issues with Linux emulation
September 30	Be able to run Darknet and Darknet commands through GUI, begin work on trying to reach desired accuracy of 95%	Partially met, can run Darknet on custom images and began training (albeit on a small scale), plan to get it connected to GUI next week
October 7	Be able to run Darknet through GUI, Have GUI separation of day and night sets, adapt GUI to be more simplistic and cover more error cases	
October 14	Research packaging whole system of GUI and Darknet together for easy use, compile all image sets together to begin training for full neural net	

Reflection

This week ended up being a lot more about bug-fixing and tweaking the Darknet protocols instead of getting the classifier training actually going, but I was able to do that in the end. I first had to fix some issues with my Linux virtual machine not being able to install command packages, then I had to adjust for formatting issues from Windows-made files, then finally having to swap out my Darknet program entirely for a slightly more robust one that has better documentation compared to the previous. As I noted before in the other sections of my journal, the new Darknet can compile and run on Windows, which will help to achieve my goal of making a user-friendly, easy to install version of the image detection software. Attached below is a screenshot of the training process for my small set of 15 images running on Yolov3-tiny, note that the time taken for each batch tends to be over a minute, which is many times slower than it should be; I plan to look into this next week.