**Friday 11/1/2019**

For the fast.ai code for training our neural network, I realized it was a bad idea to save the URL files in the virtual machine. I was not completely sure if connecting to Google Drive would work, but I decided to give it a try anyway.

I also had the opportunity to see the rest of Mr. White’s students’ presentations on their topic of research, motivations, and solutions.

**Wednesday 11/6/2019**

Over the past weekend, Connor and I discussed plans to design our web application. Mr. White had recommended Connor that he started out with using Python Flask. Connor then discovered that a tool called “Streamlit” (<https://github.com/streamlit/streamlit>) could be a useful framework for our web application. However, Connor’s initial problem when using this framework in a Python script was that he was not able to “import torch.” and wanted to let me try “Streamlit” to see if I would get the same error.

My situation was that I could only use my home desktop or one of the school’s Linux desktops in the Sys Lab, since my current personal laptop had a broken LCD display, which seemed to happen out of nowhere -- I never dropped or done anything that would have caused the screen to be broken. Therefore, during 5th period, I tried seeing if I could “pip install streamlit” on one of the Linux’s desktops. Everything looked successful during the process of download. However, I came across the following error:

“ERROR: Could not install packages due to an EnvironmentError: [Errno 13] Permission denied: '/usr/local/lib/python3.6/dist-packages/jmespath'

Consider using the `--user` option or check the permissions.”

My assumption was that I was not allowed to install packages on a school desktop for probably memory and security reasons. I knew from there that I would have to try it out on my personal desktop when I got home. I then decided to see if I could make any progress on our Director website instead.

It turns out that if I just did “python3 --version”, then indeed there is a Python 3 installation into Director, unlike what I previously thought when I just did “python --version.” I suppose revisiting Director again with a fresh pair of eyes benefitted me when I had quitted my attempts earlier due to seeing supposedly only Python 2 on Director.

I saw a python tutorial for Director, which was nice (<https://director.tjhsst.edu/docs/dynamic-sites-on-director/>). However, it did not really explain how Flask worked nor was it an effective introduction for me to get started to web app development.

**Friday 11/8/2019**

I looked up a tutorial online on Flask, the most Pythonic web framework for Python. When I tried running the following code on our Director web app:

from flask import Flask

app = Flask(\_\_name\_\_)

@app.route('/')

def hello\_world():

return 'Hello, World!'

if \_\_name\_\_ == '\_\_main\_\_':

app.run()

The Director terminal gave me the following error:

“OSError: [Errno 98] Address already in use” (along with a long “Traceback (most recent call last): ... ” message right above it). I was definitely not familiar with how the Director operating system worked, so I sat there, pondering what to do.

I decided to look at the Director documentation one last time to see if there is anything on there that could possibly help.

When I talked to John (a SysAdmin) about it, he stated their documentation was bad anyway. Apparently, the code above is correct, it was just a problem with Director itself. John got the basic website to work, and I hope it will stay that way.

**Wednesday 11/13/2019**

I decided to take a refreshed look at our neural network error, which was that the method to use the “export.pkl” to retrieve the weights and be able to classify images was not working. Here is the error:

RuntimeError Traceback (most recent call last)

[<ipython-input-51-70d953605d59>](https://localhost:8080/#) in <module>()

----> 1 learn = load\_learner(Path('.'))

2 frames

[/usr/local/lib/python3.6/dist-packages/torch/serialization.py](https://localhost:8080/#) in \_load(f, map\_location, pickle\_module, \*\*pickle\_load\_args)

**618** for key in deserialized\_storage\_keys:

**619** assert key in deserialized\_objects

--> 620 deserialized\_objects[key].\_set\_from\_file(f, offset, f\_should\_read\_directly)

**621** if offset is not None:

**622** offset = f.tell()

RuntimeError: storage has wrong size: expected 4460121195574565550 got 1024

I decided to push aside this problem aside -- I thought I could deal with this when this neural network is put on the Director website -- and searched up tutorials for using “streamlit”, the web framework library Connor and I plan on using to put our neural network on Director. I was able to successfully run a basic script. The problem was that it’s independent of Flask, meaning when you do “streamlit run [your\_file].py”, the output is an IP address that gives you a link to a website, rather than connecting to the Director website project itself.