Journal Report 5
9/30/19-10/4/19
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Daily Log

Monday September 30

Today, I continued working on setting up Keras. I decided to try using Tensorflow on my GPU since GPU processing can be much faster than using a CPU. Unfortunately, after some more research, I discovered that Tensorflow uses CUDA and since I don't have an NVIDIA graphics card on my laptop, that isn't helpful to me, so I decided to just install the CPU version of Tensorflow.

Tuesday October 1

Today I looked into using Tensorflow with an Intel GPU, since I didn't want to give up on an opportunity to be able to process data faster, and I found out that it might not be worth it to continue trying to do this since the GPU I have isn't that powerful anyway. I did find the Intel Math Kernel Library for Deep Neural Networks, which could be useful for optimizing tensorflow on my laptop's Intel CPU.

Thursday October 3

Worked on installing the library I found yesterday for optimization on Intel chips. It required Anaconda, so I needed to install that first. When trying to create a Conda environment in pyCharm, I kept getting an error with pyCharm trying to set up conda that said that the LoadLibrary() function called during the setup was missing an argument. After some research, I found that this has been a somewhat common problem recently, but I still wasn't able to fix it so I decided to scrap the whole idea for now so I can start working on the neural network as soon as possible.

Timeline

Date	Goal	Met
September 23 - 27	Implement plan for generating sample image patches.	Yes, we were able to generate the sample image patches
September 23 - 27	Get organized data for top 20 writers	Yes, created data folder containing folders for each writer with the image patches we cropped from their writings.
September 30 - October 4	Set up Tensorflow for GPU for higher performance	No, Tensorflow GPU only works with NVIDIA graphics cards. I also tried optimizing for Intel chips but ran into problems there as well.
October 7 - 11	Feed data into the CNN	
October 14-18	Continue working on deep-learning network	

Reflection

This week, I worked on trying to get Tensorflow to work with my GPU, since it is usually much faster for deep learning networks to run on a GPU rather than a CPU. Unfortunately, Tensorflow uses CUDA and since I don't have an NVIDIA graphics card on my laptop, I decided to scrap the GPU idea and just use my CPU. However, I later discovered that Intel has a library that optimizes Tensorflow for Intel's architecture. I decided that I would try this, but it first required installing Anaconda in order to install the library. I installed Anaconda and tried to create a conda environment in pyCharm, but every time I tried to do so, I ran into the error "TypeError: LoadLibrary() argument 1 must be str, not None". I looked it up and found that found that pyCharm calls the wrong executable by default, but when I tried to make the change in pyCharm, I got a new problem. Instead of getting an error, it was just running forever and not actually creating the environment. I also found a few other possible issues; perhaps my path variable was not configured correctly or I need to do something else. At this point, I was already frustrated and since I wasn't sure if any of the other solutions would work with pyCharm. I wasn't really that inclined to try them because I had already spent a week without making any progress on the project, and I knew that doing this wasn't really necessary. For now, I will just use Tensorflow normally on my CPU without trying to use anything to try to optimize it, just so I can get back to making progress. Perhaps later on in the year I will come back to this, but for now I think it's best for me to leave it alone.