

CSC630 Machine Learning: Weekly Check-in 4

Note: I included all of the work that I have done as of writing this reflection as work from the week of November 11.

Last week, I set the following goals for myself: 1) finally finish and submit the gradients project 2) write a c++ version of the alpha-beta pruning algorithm 3) combine the evaluation and search components into a functioning chess bot. I managed to complete the first two ([Gradients Project](#), [Alpha-Beta](#)). However, during the process, I came across a number of c++ compiler issues. Long story short, I now need to rewrite my search algorithm code (which is currently designed with [pipuzzler's cpp-chess](#) in mind) for [billforsternz's the-chess-library](#), and then create a inference function using our Pytorch model, so that both can run using MSVC. If this eventual c++ implementation of our bot results in a nontrivial performance boost, we will finally be able to increase our bot's depth.

I used a number of resources this week. For the chess bot (henceforth referred to as CarissaBot), I used the following (this is an incomplete list, but it represents all the resources I've used quite well):

- <https://github.com/microsoft/vscode/issues/11527>
- <https://www.jetbrains.com/help/clion/uninstall.html>
- <https://www.jetbrains.com/help/clion/quick-tutorial-on-configuring-clion-on-windows.html#WSL>
- <https://towardsdatascience.com/setting-up-a-c-project-in-visual-studio-2019-with-libtorch-1-6-ad8a0e49e82c>
- <https://www.geeksforgeeks.org/complete-guide-to-install-c17-in-windows/>

I also used a number of resources for the Gradients Project. Those are listed in the jupyter notebook, but I copied the list here as well:

- <https://matplotlib.org/stable/tutorials/introductory/pyplot.html>
- <https://stackoverflow.com/questions/21519203/plotting-a-list-of-x-y-coordinates-in-python-matplotlib>
- <https://bdtechtalks.com/2020/07/27/black-box-ai-models/>
- <https://www.tutorialsteacher.com/python/magic-methods-in-python1>
- Course's Materials (particularly the videos and Jupyter notebooks associated with "Linear and Logistic Regression, and Cost Functions," "Introduction to Jupyter," and "Gradients of Independent Variables")

Fortunately, since this is my final check-in, I do not have any questions about the content. I have my plan for CarissaBot (described in the first paragraph), and I simply need to execute. Additionally, I will also complete my Final Reflection this week. That should be pretty straightforward; it will be like updating my Midterm Reflection with what I've learned since then.

As always, my classmates, particularly Nathan Xiong, William Yue, Ali Yang, and Arnav Bhakta, were very helpful towards my learning. I talked with them a lot about my work, especially for the Gradients Project, and collaborated with many of them for the CarissaBot.