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CSC630 Machine Learning: Weekly Check-in 1

- **What work have you done?**

I focused on the Gradients Project this week, finishing the Variable class and the Logistic Regression class.

- **What videos of mine have you watched, if relevant? (They're all posted on the homepage.)**

I watched "Machine Learning: Cost Functions" and "Bias-Variance Tradeoff and Testing data". I particularly relied on the former and its attached video, as both were extremely relevant to the Logistic Regression class.

- **What external resources have you found most helpful?**

This week was mostly about implementing ideas that I understood, at least at a fundamental level. As a result, I mostly relied on external resources—such as Pytorch and Python documentation, Geeks for Geeks, and Stack Overflow—to understand libraries, hear how other people have approached similar problems, and learn what certain exceptions mean. For instance, I used the random python doc to randomly initialize my model's weights.

- **What questions do you have about the content? (You should probably also share these with me in another way, because I might not always get to these check-ins in a timely manner. Still, it's helpful for you to reflect on them here.)**

At the moment, I don't have any questions about the Gradients Project. However, I am curious about an aspect of the course projects. I've been working on a personal project about gaze estimation for the past few months, and I'd like to incorporate my work for that in this course. However, I'd also still like to learn more about decision trees, as they've intrigued me for some time. Am I permitted to work on both this term?

- **What are your goals for next week?**

My goal for the long weekend is to complete the Gradients Project, by 1) testing my logistic regression class on a complete dataset 2) reflecting on the blackbox writing prompts 3) polishing my notebook 4) writing a clear story of my progress. My goal for the rest of the week is to finalize my personal project topic (by conferencing with Dr. Z on Tuesday) and do some preliminary studying.

- **What are you submitting alongside this weekly check-in? (This assignment accepts all submission types.)**

I am submitting my work for the Gradients Project, including the logistic regression class, the variable class, and their respective testing/debugging files.

- **Which other student(s) in class would you like to mention as being helpful toward your learning? How did they help?**

William Yue, Ali Yang, Nathan Xiong, Darian Zhang, and Arnav Bhakta gave me motivation to work through the notebook, despite my feeling of burnout. They also answered background questions, such as how to derive the partial derivative of the exponential function, which weren't always necessary but very helpful for me to thoroughly understand the Gradients Project.