

The goal of our team's project is to create an intuitive graphical interface for users to utilize the pytorch API to create their own neural network. We would like the program to be robust enough that the user would be able to create any neural they would be able to by just using the pytorch API themselves. On top of creating the neural network, we would like to give the users the ability to both train and maintain their network through the interface. Our group consists solely of computer scientists with a multitude of different academic and professional experiences. There are a couple of us with a lot of front-end development experience and others with neural network and machine learning experience that will really work well together for this project.

I have taken several classes that are less involved in the technical side of computer science and lean more into the project management cycles of a software product. Classes like Software Development, Requirements Engineering, and Advanced Software Engineering are really going to help me take a more leadership-based role on this project to guarantee our project planning and execution blend seamlessly together. I am also currently working on getting my MBA and have taken a couple courses around team management and planning. I have also taken a couple of design and front-end development courses that will help me in my role amongst the team. Some of the course focused a lot on the usability of a front end application and how to gather requirements and demands from the stakeholders to create an application that they would be able to use rather than one that you might just believe would be usable.

In terms of my professional experience on the co-ops I have been on, I have had both experience with data engineering and pipelines by creating an internal microservice API at my first co-op, and experience with intricate front-end development in a variety of languages and frameworks. My most recent co-op was on a team that was responsible for creating the design system for all the external software products that the company sells. This allowed me to dive deep into the most root levels of front-end software development with the pressure of creating the specific components that would be use across the company. I believe I can take a lead role on the front-end side of this project with my experience in being thorough with how a front end should both look and feel to the user.

With the goal of this project being to create a user-friendly front end for a library like pytorch, I am excited and believe I could thrive in creating a reliable solution. Obviously, the backend is still going to be extremely robust, but I think my expertise is really going to show in the front-end space. It feels very important to me that the interface is very intuitive and usable for those with little technical experience. After all, if an existing developer was going to create a neural network in pytorch they would most likely just use the library itself. It is going to be a fun challenge to find the right balance of making it simple enough that the

average person looking to dabble in machine learning could use the program, whilst providing enough technical customization that we do not limit the user with what they are able to accomplish with the pytorch library.

I would like to take on a majority of the user research, especially in terms of the usability of the program. It will be important for me to first learn about what pytorch is capable of since I do have limited knowledge of the library, and then use that to explore what our average user base might want to use the software for. I would also like to dive into different interfaces that do similar things and what their downfalls might be in terms of how intuitive they are and what limitations they might enforce on a user. One of my goals near the start of the project is going to be finding a range of technically capable people that would be interested in spinning up a neural network of their own. Once I have that group, I will be able to set a goal for what level of experience amongst those individuals we should shoot for usability of the software. If we are able to create a robust backend for the program, we can use our spectrum of technically capable people to gradually make it more usable and intuitive for them.