

## Senior Design Capstone Essay

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Our senior design project from my perspective is more about expanding each other's knowledge in the Software Development field. My experience in the field has been mostly frontend work and I want to learn more about the backend and AI. In our team we have a diverse group of people that have worked in all different fields in Software. When working on this project, I want to be able to learn the process of connecting API's to the frontend that I will work on, as well as learn how to train a useful AI model. In the process of building our application I will be able to expand my knowledge on these different subjects. I will also be able to show my team members how to code in the frontend and connect it to the backend giving everyone a better understanding of full stack development.

Through our college experience, we have learned how to think critically through the requirements necessary to complete a project and what the most efficient way to complete a task would be. This semester I am taking a Requirements Engineering (CS5127) class where we are learning the process to identify the necessary requirements needed to solve a problem for stakeholders. This is going to be used in our project as we have an idea who our likely stakeholders would be, and we will be able to use that to build out a roadmap for our project. Additionally, Data Structures (CS2028) and Discrete Structures (CS2071) gives us the ability to think through programming problems and solve them in the most efficient way possible. I have also used my Python Programming (CS2021) skills to work on code for the backend of applications that I have worked on in Django, which has been a significant help. Lastly, my Software Engineering (EECE3093) class outlined how projects need to be structured and how to use Discord in projects to ensure that the project is kept in a stable state.

My COOP experiences will help our team in this project because I have a lot of experience doing frontend web development. In my COOP at Givaudan as a Research Associate intern, I worked on creating the 3.0 version of a web app that my company owns and we made it web-based for this version. This is going to benefit our team because I have the background experience to be able to create the framework for our application and then help with the other AI and backend development when I finish my portion of the project. Sara has a lot of experience in quality assurance, which will aid in making sure that our application runs correctly and has a small amount of bugs. Eli has a lot of experience in the backend, so he will be able to work on connecting APIs to the frontend that I create. Mike has worked with AI modeling, so he will do the majority of the work on training our AI model to do what we need it to.

I am motivated and excited to work on this project because I love working on Front-End and I want to prove that I know what I am working on by building a beautiful application that will be user friendly and that the public will want to use. Furthermore, I want to learn how to build an AI model, and working on this project will give me the experience in that field to possibly work on that more in the future. Other than the previously mentioned reasons, I think that working on this application will look good on my resume and I will enjoy doing it. As we are still in the stage of coming up with the full idea of the project, we still need to discuss the major features of the application and what will make it different from other applications. But once that is solidified and tuned up, we will begin designing the solution by creating a wireframe diagram for our frontend and data model for the backend. The team will also dig into the AI model and figure out how we will want to manipulate it to make sure that the application does what we want it to.

The results that we want to reach would be to create an application that is beneficial to people/stakeholders, while also giving all of us as group members a better understanding of full-stack development and how to work with AI. The ideas that we have for applications are all things that have not been done before, and I believe they could be beneficial to have in society. Moving forward, I will evaluate my contributions by making sure that our application looks presentable and that it is easy for users to understand the application. The last thing you want when working on an application is having a user not understand what is going on in an application, so a priority for me is that I want to make sure that the application is easy to use and looks aesthetically pleasing. I will judge myself in this process by comparing it to projects that I have made before, and by comparing it to other applications created in React by other companies to ensure that what I have developed is something that people will want to use.