The project that I will be working on is a birdhouse computer application that will be able to recognize images of birds and provide data and information on them. It will use Open CV and we will also have a database that we will be using to reference and store the information. The project will help people who have very limited knowledge about birds and allow them to learn in a simple way. The project will be broken into two main parts. The first being image recognition and analysis. The second part will be referencing existing bird databases and storing our own information collected into a database that we design.

I have taken many courses throughout college that have set me up to have the fundamentals and knowledge to ensure the completion of this project. To start, we are going to mainly use python and C++ for the development of this project. I have taken the course CS 2021 Python Programming and CS 3003 Programming languages. In these courses, I have learned a lot about the two programming languages and I feel comfortable working with them. I have also taken CS 4092 Database Design. This class helped me learn a lot about the basics of SQL and data management.

I have lots of experience through co-op that I believe will be very beneficial for the project. My first co-op was as a Technology Development Intern for FIS. There I helped develop a crypto banking application for the company that would analyze trends of crypto currency. This has given me a solid understanding on what it takes to create an application and the necessary fundamentals to get started. My fourth and fifth rotation was at Baker Hughes as a Software Engineer. There, I created an automation testing and data analysis program for the company. This program dealt with millions of data points so I had to learn a lot about database management and SQL. This is important for the senior design project as we will be dealing with lots of data from image recognition and must be able to manage that data when referencing other databases.

My partner and I are extremely motivated to work on this project for many reasons. To start, I have always wanted to learn about how to code and work with image recognition. I believe that this is something that is necessary to learn and is very prevalent in the modern industry. I also love the data analysis and management aspect as well. I have lots of experience in this area so being able to apply that knowledge into this project will allow me to further practice and cement my skills. I also have always loved animals and nature so this project is something that I feel passionate about and will want to work on.

We believe this project will be extensive and require lots of organization and time to complete. We will start with coming up with a design and scope for the project. It is crucial that we identify what features need to be made within the app and the priority/time commitment that each one will need. We expect that by the time we graduate, we will have a working prototype that will be able to be used in a limited capacity. To stay on track, we will create a timeline where we will have set goals on a week to week basis. This will make sure we are both putting in enough effort into getting the project done as well keep us updated on each other's progress. We will also keep our advisor constantly up to date to further solidify that we are getting work done.