There are millions of car accidents in the U.S. every year and cause millions of people injured every year. I believe, accidents occur mainly because of human behaves and the limitation of human's ability to react and process all the information in a short amount of time. As technology rapidly grows, we invent the self-driving vehicle and other technology to help the driver. However, not everyone can afford to can a smart vehicle. For our project, we will be focusing on computer vision and deep learning to create a project to help process information for the driver with an external camera and Raspberry Pi and show them on an interface. The goal is to break the limitation for the older vehicle to have a smart assisting drive system.

As mentioned in the first paragraph, the project involves computer vision and deep learning. For computer vision, we will be focusing on graphic processing. For this reason, all our team members are currently taking Computer Graphic I and self-studying with this knowledge, we want to use this project as a learning experience as well. For deep learning, every member has taken deep learning or machine learning previous, we use those experience to help develop the program and improve our skill in deep learning as well. For the interface for the system, I have taken User Interface I previously and created a web application as the final assignment for Python course. All those knowledge will help us solve the problem we might face and complete the project.

For my pass four co-op experiences, I have involved in diverse roles. Roles include application developer and research assistant. During co-op at Innomark Communications, I was an application developer in the IT department. My primary works were web app development for both front-end and back-end. The job involved using interface design and system (back-end) structure design. My last co-op was at Cincinnati Children's Hospital Medical Center as a biomedical developer, my goal at CCHMC was to create a program to analyze the collected data from the participant. The data was collected with Tobii Eye Tracker, which requires me to understand the row data's mean with the graphic shown to the participant. This will help me to understand the data/graphs captured with the camera and reformat them into the form that drive's need and desire.

As someone who does not like to drive, I always want to have as much assistance as possible from our technology. One of the common problems while driving is not seeing the road sign on the side or other objects such as the vehicle or small animals. Our first step will be road sign detection for images and videos processing, then we will try live feed for detecting road sign. After we complete the basic functionality, we will start to create a user interface for live feedback. This will complete the minimal requirement for our project. Then we can start adding more futures we want, such as the vehicle or small animal detection.

Our goal is to complete the minimal requirement for the project that can be in use for a live test on the vehicle. To accomplish this, we need to be able to detect the road sign while it is changing size (as we get closer to it) in the video. Our team will sit down in a meeting to complete this task. Since I have a lot of experience in interface design and web application development, I will be doing more for programming the interface for the user. I believe we will be able to complete the basic functionally for the project by mid next semester and start to implement more future for the rest of the semester. Base on the problem we might face while programming the futures, I believe we will be able to complete the prototype that can be in use for testing.