

JUSTIFICATION:

The Security System project is a great way to assess and improve my skills in this class because it brings together many of the things I've learned over the course of my four years at LMU, along with other challenges I have not yet approached throughout my undergraduate career.

A lot of my knowledge for this class's project will be coming from Languages and Automata 1, Data Structures, and Senior Project 1. Languages and Automata 1 focused heavily on understanding languages such as Java, a compiled, statically typed language. Data Structures will help me understand the components of the OpenCV library and present them in an effective, optimal way. Senior Project 1 will help me bring multiple files together for the large project and configure multiple components in an organized way. I also have a lot of experience with Java, Error handling, logging, and CI/CD from my past internship, so I will apply what I have learned to ensure everything is done according to best practices.

This project is outside my comfort zone because I have to work with Hardware, OpenCV, and YOLO, which are all new to me. However, there is a lot of documentation and resources available to help me bring these components together and deliver a working final product at the end of the semester. One semester is more than enough time to work on this project, as I already have my libraries set up, my Raspberry Pi working with the camera and the integration with OpenCV in Java, and the Yolo model integrated.

This project is interesting to me because my end goal is to land a job at a defense company, and it has many of the requirements job applications are looking for in my specific area of interest. This will be interesting to my classmates and instructor as well, because they will see me bring together software and hardware in Java, which is not usually done.