

Before I came to Iowa State to study computer engineering, my skills in both engineering and programming were basically zero. During my years here I have been able to grow as an engineer, building my programming and problem solving skills, as well as growing as a person.

My first programming classes such as CprE 185: Intro to Computer Engineering and Problem Solving, ComS 227: Intro to Object-Oriented Programming, and ComS 228: Intro to Data Structures were all good starting classes. They allowed me to get my feet wet in programming, and build up my problem solving skills with smaller, individual projects.

In CprE 288: Embedded Systems I, I had my first decently sized engineering group project. While it was a good project to work on, I also unfortunately learned that not all groups are created equal. The project itself was really fun to work on, we had to program an IRobot roomba to navigate around an obstacle course, identify a landing zone, and park in it. Using the built-in IR, sonar, and bump sensors, along with serial commands sent from a user, we had to blindly navigate it around a course. One unfortunate thing I took away from this project is that sometimes you end up with people that refuse to communicate. While this did result in extra work for the rest of us, we were able to complete the project on time.

In ComS 309: Software Development Practices and ComS 437X: Computer Game and Media Programming I learned how important it is to have good software design and design practices for large projects. In ComS 309, I was part of a group that created a secure peer-to-peer file sharing program called Send Cake!. Before we started coding we spent two to three months designing, working out potential issues that would have appeared during development. My primary job while working on Send Cake! was making sure the files sent were cryptographically secure, and that the files all got there in

one piece. After researching different cryptographic techniques and reading up on current issues in cryptography, I decided to use a method called cipher-block chaining. Cipher-block chaining gave us a way to quickly encrypt and decrypt large files, while keeping them very secure.

In ComS 437X: Computer Game and Media Programming I worked individually on a 2D video game. I jumped right into it without doing much design work. While the end game was playable, there were many issues that required somewhat patchy fixes. I would like to go back to this game some time and start over from the beginning, get some decent design work done, and recode all of it.

Currently I am working with a great group for CprE: 491 Senior Design I. We are in the design process of making a biofeedback Android widget. All of my years here have built up to this, my programming and design skills, as well as my interpersonal skills, are being put to the test on such a large project.

In conclusion, my experiences here at Iowa State University have shaped me into a better engineer and a better person overall. Not only was I able to improve my skills as an engineer, I was also able to increase my personal skills by being able to meet and work with people from all over the world.