

Cumulative Reflection

My experiences at Iowa State University have prepared me for my professional life after college in many different ways. Not only do I feel more confident in my technical abilities in Cybersecurity, Engineering but also my overall soft skills. Iowa State has contributed to growth in many career and personal aspects in life. In this reflection, I will share the progress I have made since attending Iowa State.

I have gained a tremendous amount of confidence in the field of security by taking the core security classes offered at Iowa State. In classes like CPRE 231 and CPRE 421, I learned how to use the CVE database that's maintained by MITRE to look up existing vulnerabilities in computers and software programs. This taught me the importance of being able to bring external resources into the engineering process. Learning to navigate this database is essential for Cybersecurity Engineers to learn about past and present existing vulnerabilities in products that an organization could be using or creating.

I was able to build experience using industry-leading tools like ATLAS, Burp Suite, and SNORT. All of these tools are paramount in analyzing, building, identifying, and solving engineering problems with Cybersecurity in mind. These tools allow you to gather information regarding code, network traffic, and more to discover potential attacks and looming exploits in projects.

I wasn't only exposed to the Cybersecurity side of things; I spent time learning about both the software and hardware development side of computing. In classes like COM S 309, I was able to work in a group to develop and document an android application in Java. This allowed me to develop skills in mobile development, database management, web server deployment as well as teamwork. On the other hand, I learned a lot about development and programming on the hardware side as well. In CPRE 288, I got to learn the programming and math needed to develop embedded systems. In CPRE 381, my partner and I developed a processor in VHDL from scratch. I learned the intricacies of how a processor works, and I built the barrel shifter component completely on my own through much research.

In my senior design project, my group's client has given us the task of building a web dashboard interface that helps bring teachers information about relationships and connections being made with groups in the classes. This project requires my group and I to do research on programs we've never used before and develop the skills needed to fulfill all of the client's needs. This class has taught me the complexities and necessities of group work in the real world. Everyone has a special piece of the project that they specialize in, and we put it all together to make an outstanding finished product.

Outside of the classroom, I have gotten the opportunity to join many different clubs both in and outside the college of engineering. One of the clubs I've stuck with throughout my time at Iowa State is the Japanese Association, where I'm the social chair officer. In this club, we study and discuss the Japanese language and culture. This club has taught me the importance of lifelong learning because learning a language does not happen overnight. It takes years of consistent practice and learning in and outside the club. Similarly, Cybersecurity is a vast field that requires those studying it to continuously be developing and honing their skills as the technology around us changes every day.

Overall if I had to start over my undergraduate experience at Iowa State, there wouldn't be a thing I would change. Everything good and bad that I've experienced during my time here has led me

down the path to whom I am today, and that's what makes me unique from others that are in my program. I cherish my experience at Iowa State and feel ready to move on and combat real-world Cybersecurity problems.