A Reflective Journey: Navigating Your Cumulative Experience at Iowa State University

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My time here at Iowa State University has been a very unique experience from the traditional path as I am a transfer student.

Iowa State has given me the experience I need to work successfully in a group thanks to courses like Cpr E 288 (Introduction to Embedded systems), or Com S 309 (Software Development Practices). Com S 309 and Cpre E 288 has prepared me to design, develop large and intricate system and navigate ethical and professional dilemmas. My diverse education here at Iowa State has given me the confidence and the ability to see and action on ethical issues without worrying that I might be making the wrong decision or making the situation worse.

Com S 309 is a great example where my personal drive to understand how thing worked helped to further example my knowledge. In this class we had to use a Java package called Maven. While the instructor gave us enough to be able to complete the program, I wanted to know more and be able to better understand what the Maven package provided. So, I ended up reading more of the documentation about Maven and from that reading I was able to find a better solution to an issue we were having on implementing web sockets.

Learning does not stop at the classroom; it extends into all parts of life. This includes clubs and organizations. While it doesn’t relate to engineering, I have learned to be safe and respect the rocks while climbing thanks to the Mountaineering and Climbing club at Iowa State. They taught me how to build an anchor system at the top of a climb to be able to safely climb, they taught me how to safely repel off the cliff to put less wear on the gear. Most importantly they taught how to leave no trace and clean up after others so that generations to come can enjoy the same views that I can today.

At one of my previous internships, the team I worked on only used python, which was a problem because I knew every little python, so I had to teach myself not only how to code in python but how my team expects me to code in python. I am a very hands-on learner so for me it was sitting down and going through a bootcamp like course to learn and however the style of python that the bootcamp taught me was very different to that of my team, so I had to change and refine further to match the expectations that my team had for code standards.

My journey through my undergraduate has been long and filled with stress and mistakes. If I could go back and start over, it would be hard as every mistake builds who you are as a person and changing those mistakes would be changing everything about you. But if I had to go back, I would choose to start at Iowa State. I choose my previous university on my athletics, swimming, and unfortunately when that ended, I had no reason to stay as the program there was not very strong.

During my last internship I had to learn how to create and deploy resources within a cloud environment, specifically Amazon Web Services. My team had used a tool called Terraform, this was an infrastructure as code tool, that allowed for infrastructure to be created within in cloud environment. I had to learn how to use this tool, I started by looking at what my team had already done with this tool to understand how it should be used, as I was doing that, I was also looking at the docs to ensure I was truly understanding what I was looking at. For me this is a very successful approach as it fit my learning type of visual and hands-on.

I was provided an amazing opportunity to work with John Deere in a hybrid full-time position two years ago and recently, we had a project to improve our support website. It was a very basic html website that would be populated statically, every 5 minutes. With my limited knowledge of html and a theoretical understanding of modern web frameworks I set out to make a concept for a new support website using react. Through this process I had to read documentation, understand John Deere’s rules for website and the required designs, and while my first few attempts where rough and poorly written, as I learned the limitation of React. I better understood how to create the site and we able to get the idea turned into a really produce for our team to continue development.

There are many strategies to conquer not only complex engineering concepts, but complex concepts in general. For me the best strategy is to try, be hands on. I am a very hands-on, visual learner. While it might not be the fastest method, I like to just get into the thick of the problem and try different solution. If the problem is really complex, I will try and have the related documentation open, but sometimes there is no documentation.

As my journey through my undergraduate comes to an end, I identity many areas where growth can and will most likely happen. Iowa State has been a fantastic place to learn and grow as a Cyber Security Engineer, however they lack in the offensive and cloud aspect of Cyber Security. I want to learn more about cyber security in the context of cloud computing environments. Another place where I want to grow is my understanding of web sites, and modern web frameworks. I have very basic understanding, but I want to have a better understand of how it all flow and connects.