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Cumulative Reflection

Four years is a significant amount of time in anybody's life. Not only is four years at Iowa State University significant, it's also one of the most life-changing four year spans for almost anyone. There have been ups, and there have been downs; there have been enjoyable classes, and there have been not-so-enjoyable classes. But that's not the takeaway that college is trying to supply. Iowa State University's Computer Engineering program puts students through four years of personal and professional development, as well as attainment of technical and non-technical skills. Overall, Computer Engineering has prepared me for engineering solutions to problems, working well with others, and a lifetime of learning.

The Computer Engineering program introduces students in their first year to basic programming, science, and mathematical courses, which creates a layer of problem solving to build off of for future courses, especially the more intensive engineering courses. One of my favorite courses has been Problem Solving in C, a course that introduced me to programming concepts and allowed me to apply them in ways to complete a task. Every class has been either supplementary or directly responsible for improving my technical knowledge. Chemistry, physics, math, and general education components were crucial for making me a well-rounded engineer.

In terms of professional development, Iowa State has been an excellent for fostering relationships with employers and interning with several companies. Throughout my 3 internships during my time here, I have learned more than I would have otherwise. It was remarkable how much I learned in my first internship (and realizing how little I knew beforehand). Each additional internship has given its own unique experience and has given more insight into what I want to pursue as a career. Working on teams in a professional setting, as well as in an academic setting has been beneficial. This is also true when looking at clubs and societies that I've been involved with. I have been involved with several clubs. The first couple of semesters were important because I was able to try out a few clubs, and my interest in them helped steer me in the right direction to what I was most interested in. I went to several Internet Assurance Student Group meeting, which were interesting to attend, but in the end, I decided network security was not the path I was hoping to go down. I was also involved with Critical Tinkers and Hifi, which were two clubs geared towards extracurricular projects. In the last two years, I have found a few groups which have stuck with me. One club, the Society of International Engineers (SIE), which I have been an executive board

member of for two years, is not directly tied to Computer Engineering; however, it has taught me to make connections with people and foster healthy friendships that can last a lifetime. Eta Kappa Nu (HKN) has taught me to use my knowledge to help my peers around me. One way HKN accomplishes this is by providing Help Room hours every day. As a member of the society, I volunteer to help peers on course material a couple hours a week. It is a rewarding experience.

One of my biggest weaknesses coming into the Computer Engineering program was knowing how to start learning something new. For the longest time, I would rather procrastinate learning a new skill because I was worried about not being able to commit and fully understand something. As time progressed, I discovered that in engineering, it's necessary to be constantly learning and adapting. After being asked to implement features using a language or procedure I didn't know at each of my internships, and also for senior design, I've found that the best way to learn is to dive right in. One example is from my internship with Garmin. I needed to write a Python script, but I had never written Python. So I knew I needed to learn, and the most valuable resources were the internet and my mentor. For one day, I read about Python, asked questions about Python, and finally practiced implementing Python. It was a worthwhile learning experience because I saw myself progress from zero knowledge about a subject to being able to apply what I had learned by the end of the day.

Looking back, I only wish a few things had been different, but it's also hard to judge because retrospection can overlook a lot of the smaller details from being in the moment. I wish the programming courses had been more intensive. Either that, or I wish there had been more programming courses overall. In the end, what I need to know for a job is more related to my programming knowledge. Companies seem to be worried about what I know from my programming courses and internship experiences. I also wouldn't have minded having more applied Electrical Engineering courses in place of some required general education courses.

Overall, it seems like four years is a long time, but, really, it's gone by quicker than I'd ever imagined. Fortunately, the knowledge I've attained over these years has been beneficial and will continue to do so for years and years to come. It's amazing to think how much someone, such as myself, can change and grow to understand so many new concepts, learn to work as a team with others, and have the desire to continue learning for years to come (a necessity in the world of engineering). Iowa State University's Computer Engineering program was a defining step in my life, and I couldn't be happier about it.