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Cumulative Reflection

My time completing my engineering degree at Iowa State has been transformative in many ways through many different avenues. The coursework I took has been challenging and quite the relief to finish, though my education is just starting as I enter the workforce and my decisions carry more weight. Outside of coursework the Iowa State community has been extremely helpful to my journey as an engineer through work opportunities and great students who have become mentors to me over the years.

One of my favorite and most helpful classes at Iowa State was Advanced C and C++ where every assignment in the class builds off itself until you have a working dungeon crawler at the end of the semester. The most important skill I learned from this class was how crucial it is to write code to be extensible from the very beginning. Most students only go for so many assignments with their own code before switching to the professor’s starting code and this made me think about how hard it would be to design it correctly from the beginning. A couple years after taking that class I’m a stickler for requirements because I don’t want to be building out a system and suddenly have to make it a Frankenstein to put another use case in at the last minute.

Another extremely helpful class I took was Advanced Programming Tools which was a class focused on concurrency in software. Although it focused on concurrency, my main takeaway was actually how to think critically about how to make sequential code leverage the features of the language to run faster. My term paper was about the internals of data streams in Java which opened my eyes to the easy ways knowing how a system works enables you to write better code with much more mental clarity. I regularly research how tools operate before I use them at work so I can make sure that I am accomplishing the goal in the most efficient way possible and it has helped the quality of my code infinitely better, not to mention my confidence.

Iowa State has an incredible focus on career preparation and for me this has been most evident through the biannual career fair. I was lucky enough to get an internship every year I attended (except one because I went back to intern for the company I now work at). The first internship I took was when I barely knew how to code, and it was a great experience. I had a lack of mentorship but a wealth of resources, I was given time to play around and do whatever I could research and prove was the best option in order to meet the requirements of the tool I built that summer. It taught me how to work in a full time environment and gave me the basis for the social skills in business and engineering that have made me successful ever since. My most impactful experience in college has been interning at the start up I am working for after graduation and I owe the opportunity completely to the career fair. Working on production code helped me reduce mistakes and become a more skilled programmer very quickly because in such a small company news of breaking production spread fast and even worse, it was news that included your name. This fear led me to seek out knowledgeable individuals to help me make sure I had a complete understanding of my code and it was thoroughly tested before I merged it.

The other main component of my growth at Iowa State is the friends and mentors that I have had throughout my career here. From the very beginning when I was joining clubs and getting extra help on assignments, I was greeted with open ears and sound encouragement. It’s been the patience, friendship, and advice I’ve been given by these people that have helped me to become much clearer about the vast network of technologies that I can work on. I was able to fully explore a technological field; talk to people who worked there in great detail and pursue my own projects with guidance that helped reassure me I was on the right path. Through constant mentorship and experimentation, I have been lucky enough to discover the flavor(s) of software that I really enjoy and that gives me so much more clarity on my career and where I see myself throughout it.

Iowa State has been a great experience for me and has made me a great engineer who has depth in many areas. Several classes were where I had the moment where it all “clicks”, that moment when it suddenly makes sense and the confidence, I lacked is much easier to find and reinforce. The classes were just the tip of the iceberg though, the rest being so many contributing factors outside the classroom. The people I’ve met and learned from, the jobs I’ve taken to learn and succeed, the multidisciplinary activities always available on campus. My engineering degree has been about so much more than book smarts and I’ve learned and grown into a confident engineer who can work with anyone.