

# Cumulative Reflection

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In the past few months, as my senior year approached, I have often thought about what it means to be an engineer. I had a tough time coming up with anything tangible, so I switched to looking at the more subtle undertones of the Computer Engineering curriculum at Iowa State University, and I think I came up with some good points. Using my now methodically programmed engineering-oriented brain, I will lay out some of these points in a quasi-chronological order.

I started in freshman year, as most students do, with my introductory engineering classes and general education requirements. These courses, while not always appearing relevant (or even particularly interesting) laid the backbone for my engineering knowledge to come. Early computer engineering classes covering topics like Digital Logic and Object-Oriented Programming seem like ancient history by now, but I still use knowledge and theories from the classes on a weekly basis inside and outside of school settings. After getting a solid foundation of disparate topics like physics, chemistry, and English I moved on to the next stage of my engineering education, application.

Opportunities to apply my foundational knowledge came in the form of larger project classes. These classes included required classes like Software Development Practices and Senior Design, but also included project-based classes I sought out to take as my electives, like Construction of User Interfaces and Embedded Systems II. With these classes came a new level of freedom, where I had to use my problem-solving skills and knowledge with minimal handholding. I flourished in this environment where I could work on things that I was interested in and think of novel solutions on my own. I had a lot of success in these courses and came out with the top project in multiple courses. These chances to apply my knowledge in a scholastic setting led to my next phase of education, creation.

Over the past summer I was fortunate to have an internship with a software company located in Omaha, Nebraska. The company I interned for was Buildertrend, and they gave me some great opportunities to show off my knowledge and application skills in a professional setting. Buildertrend gave me a lot of freedom to work on modules alone with only manager supervision. This really allowed me to be creative and create webpages for their existing web application from scratch. It was a very proud moment for me when my pages were added to the production code at the end of the summer. My internship was a great experience for numerous reasons, but there is one more I would like to talk about specifically.

Buildertrend had a strong policy of not forcing employees to work more than 40 hours per week, and this left me with a lot of free time to experiment. These experiments ranged from making a platforming game (think Mario, but with more pixels) to making this website you are reading this on. Having free time after work without constantly worrying about my next

assignment allowed me to experiment and really allowed my creativity to flourish over the past summer. I also realized that my real passion is new ideas and inventions. It is my goal to found my own technology company in the next few years, so I will be in for a lifetime of new experiments and creativity outside of the conventional work or school setting.

I am very thankful for the faculty I have had at Iowa State University and the resources they gave me to excel in my future career. It has been a long journey from the early days of pre-requisite classes and building knowledge, to the project classes and application of that knowledge, to finally allowing those applications to lead me in new and adventurous areas of creativity. That being said, my engineering career and quest for knowledge is just beginning!