

Cumulative Reflection

Iowa State University has prepared me to tackle technical challenges, master time management, be mindful of global and societal contextual factors and consider ethical implications. Iowa State University has prepared me to tackle technical challenges through immersive course work. For example, in COM S 311 (Design and Analysis of Algorithms) we worked on many programming challenges that applied the material we learned in class. In SE 491 (Senior Design) we work on a year-long project where we are given a real client and an issue to solve. After we are given our problem statements, the senior design team has to design a technical solution, write up proposals, and present the solution to the client. I think Iowa State University has also allowed me to master time management. After balancing, a part-time job, heavy engineering course work, and outside-of-the-classroom activities, I have learned how juggle multiple tasks at once. Iowa State University has also helped me understand global and societal contexts through multiple different general education electives. At Iowa State University, we are required to take courses in U.S. Diversity and International Perspectives. I took a women's studies class along with a European history course. These courses helped me expand my understanding of different cultures and the problems they may face. Lastly, Iowa State University has helped me consider ethical implications to my engineering work by teaching me about engineering standards and analysis various case studies of previous engineering projects and their outcomes.

At Iowa State University, majority of my course projects were in groups. For COM S 309 (Software Development Practices) I served the leader of a team of four. For that project I developed a lot of leadership skills such as: how to motivate people, how to effectively communicate team goals, and how to lead by modeling the way. Following that, I am also the leader of my senior design team. After working in my senior design team for a semester, I have continued to develop those leadership skills. Those skills will be extremely valuable for me after college as I enter the workforce and pursue other leadership roles. Iowa State University has also helped me recognize various contemporary issues from class interactions and interactions with Iowa State University's governing body. The interim president of ISU was very diligent to prioritize campus climate and reject any discriminatory practices happening on campus. Regarding engineering, in my data science classes we talk about any implications or biases big data may have on communities. At Iowa State University, they have also taught me about various professional requirements such as using technical communication from ENGL 314 and business speaking from SPCM 312.

During class projects, I drew upon information by using fundamental computer science theory I was taught at Iowa State University. From various projects, I learned how to look up and read documentation online. Professors also encouraged using various forums for help such as: Stack

Overflow. I learned how to cite journals from LIB 160 and how to utilize Iowa State University's abundant library resources. I mainly used experts in my field to complete class work. Software Engineering Applications are usually better documented online than it is through professional journals. I learned how to properly post technical questions to forums. I learned how to network with other professionals and employ them as shared resources. Most of the resources I used at Iowa State University was a combination of watching YouTube videos, reading online tutorials, and searching online documentation.

I have participated in over 7 different Hackathons, a Cyber Defense Competition, Google Mentorship Program, a ACM Practice Team, attended countless career fairs and have had 2 professional internships. I attribute hackathons to one of the sole reasons, I am a very employable individual. Hackathons taught me how to use my fundamental computer science skills and actually build applications to different issues. Hackathons taught me a lot about real world development from version control to researching various libraries to online documentation. I think the Cyber Defense Competition also helped me understand various security implications that come with building virtual solutions. The Google mentorship program also helped me address my weaknesses with various algorithmic techniques and then directed me to the resources I needed to succeed in the interviewing process. Attending countless career fairs also helped me master professional speaking and understand what recruiters may be looking for now and in the future. My two internships at IBM and GoDaddy really helped me develop professional software practices. These two internships taught me how to jump into a project and learn on the fly in order to be productive. All of these activities taught me the value of lifelong learning because they pushed me to get out of my comfort zone and to try out new things.

I understand new learning experiences every day. I have begun to teach myself about new web development practices. I read up on new economics trends from new articles. I use Medium to follow various technology gurus. I use Github to read through various open-sourced libraries and understand the patterns they employ. Because of Hackathons, I have learned to love to start my own projects. I am beginning to learn how to use various big data mining tools and teach myself more about machine learning. Even though data science and machine learning are two very advanced topics, I have gained confidence in my engineering skills from Iowa State University course work and from various activities.

If I were to do my undergraduate work again, I would have gotten more involved with the Cyber Security group on campus. I would have done that because Cyber Security is so prevalent in the software industry. There are security breaches that happen every day and sometimes disrupt major corporations. I would have also taken more internship experiences. I think work experience

is extremely crucial to being employable in Software Engineering. Most employers test you on fundamental computer science skills, but evaluate your excellence through real world applications and experience. I would have also done undergraduate research because I think there are some really neat topics in computer science and having that research experience would not only help me use theories taught in class, but also allow me to understand formal research methods and techniques.