

Jakub Hladik
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Cumulative Reflection
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My overall experience at Iowa State University has been great. I learned a previously unimaginable amount of material to help me become an engineer. Iowa State University is known for hands-on engineering experience and I can only confirm the validity of the statement. I spent countless hours in laboratories working on exercises and projects. Iowa State University helped me choose a focus and prepared me for a lifelong profession of engineering.

When I first entered the engineering program, I was not completely sure which path to take. I chose computer engineering as my major and I do not regret it. After I finished several fundamental engineering courses such as calculus and physics, it became clear what I want to study. I gained interest in electric circuits, mostly in EE 201 and EE 230, Circuits I and II. Most of my friends went the “software route” of computer engineering whereas I decided to go the hardware way. Not too many people took more electrical engineering classes than what they had to because they thought they were hard. The fact that the courses might be difficult did not stop me from taking EE 330, Integrated Circuits, because I was curious how transistors work.

At the same time, I was taking a notoriously difficult class, CprE 381, Computer Architecture, with Dr. Zambreno. This was one of the most challenging classes I have ever taken but I enjoyed it the most. Thanks to my knowledge gained in EE 330, I was able to connect abstract concepts to low-level transistor gates and therefore understand the concept of computer architecture inside out.

Using knowledge from all my previous classes, I started a long-anticipated project—my own processor. In EE 330, we were given the opportunity to choose our final project. I self-proposed a single instruction processor. This was an unconventional concept that I discovered on Wikipedia when reading on minimalistic computer architectures. My proposal was approved and I started developing a FPGA prototype of my single instruction processor. Throughout the semester, I debugged a minimalistic architecture and designed an actual manufacturable VLSI version of the processor. Throughout the process, I spent countless hours of discussion with well-respected professors at the University as they found my project very exciting.

It is important to mention that Iowa State University obtained me two great internship experience through the Engineering Career Fair. My first internship was at Nexteer Automotive where I applied my embedded systems knowledge learned in CprE 288, Embedded Systems, to create an SD card driver. I also expanded my knowledge during my internship at Nexteer by learning how to design printed circuit boards in my free time. I managed to finish two projects when I was only assigned one. I left with a footprint left at Nexteer by designing a part of the new validation platform circuit board.

My latest internship was at Rockwell Collins. There I was focused more on software. I learned model-based design using Simulink and learned scripting language Python in my free time. As I became more familiar with the process, I came up with ideas how to automate certain repetitive tasks using Python to reduce the amount of human error and save the company some money. By being innovative and productive, this internship resulted in a full-time offer at Rockwell Collins.

Not to mention my projects in my free time. I am very interested in computer architecture and I decided to study the history of it. I spend my time building old computers and programming them in machine language. By following this approach, I learn every detail of computer architecture and become an expert in it.

Iowa State University prepared me to become an engineering professional and gave me a handful of tools to get the job done. The University gave me the most valuable tool of all—the willingness to always learn more. I would recommend Iowa State University engineering program to anybody with interest in a STEM profession.