

Prompt: 6. Think about an academic subject that inspires you. Describe how you have furthered this interest inside and/or outside of the classroom.

I am not a morning person and few things can get me up at 6 AM. But being interested in how things work, I leapt at the opportunity to enroll in a hands-on digital electronics course in my junior year. The year before, thanks to my computer science class, I learned two important things: the basics of coding, and that coding wasn't for me. Now I was excited to try my hand at another engineering discipline.

Quickly, this course became one of my favorites. As a small, project-oriented class, what wasn't there to like? I worked on projects ranging from soldering random number generators to designing timers and counters. Whether it was hand-connecting wires to integrated circuits or programming logic expressions using Multisim software and then downloading that data onto a field-programmable gate array (FPGA), it was satisfying to see my thoughts turn into physical results.

I began messing around with electronics lying around my house. I spent hours researching how to deconstruct and reconstruct my phone, eventually deciding not to because, well, the stakes are high.

Instead, I set my sights on building a computer. While the installation process seemed straightforward, the design of each component was intricate. Technology had progressed so quickly that compatibility had become an issue. New motherboards wouldn't work with outdated processors; AM4 chipsets wouldn't work with B550 motherboards but would with B450s. It got very confusing. I began to grasp how small changes in factors ranging from speed to size to brand would affect the performance of each component. After the mental pieces finally fell into place, the physical parts clicked together, creating the computer on which I now write this essay.

I still love learning more about the different electronics lying around my house. I took my alarm clock apart to see how someone had created such a horrible device. I'm excited to continue my engineering journey through my Project Lead the Way senior year capstone project, focused on building a unique solution to one of the world's many environmental problems.