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CEN 2021 Manufacturing Scholarship Essay

From a young age, I began to take an interest in computers and would seize any opportunity to use them. As I grew older I began to hear about automated processes involving assembly lines composed of robots, operating as humans would in their place. Eventually this would also enter our homes and everyday lives, especially with Alexa and Siri, for our convenience. Interacting with these technologies made me take notice of how humans interface with their technology. In the manufacturing setting, the machinery used are much larger than an Alexa, but their interfaces still rely on physical controls like buttons and dials for humans to operate them. However, a large part of the convenience in using an Alexa is that it is almost completely voice-based. As my passion for computers grew, I became more interested in investigating the potential applications for a similar kind of interface.

In high school, I got the opportunity to explore my own interests when I joined an independent research program called Exploring with Mindful Creativity and Curiosity(E=MC2). This program granted me the freedom to pursue whatever I wanted. I took this opportunity to take on an issue closer to home which had become an everyday problem for my mother -- struggling to use the hands-free calling system in her car. I had noticed how this system continuously failed to recognize any name she said. I spent the whole summer scrolling through a vast selection of scholarly papers on speech recognition until I was able to gain an understanding of the problem and begin devising a solution of my own. It wasn't until many months later that I was testing my program. After several attempts, I remember sitting dispiritedly as my code compiled and ran, fully expecting another erroneous result. I'll never forget the feeling that washed over me as my program told me my own name, accurately distinguishing it from several others. I submitted my work to competitions and won three awards, but the feeling I had winning them paled in comparison to that singular moment.

Chasing this feeling led me to choose my major of Computer Engineering, which ecompasses the software and hardware aspects of technology that I enjoy so much. The world of manufacturing is constantly improving by using the new technologies available to it. Computers and automation are being integrated into our lives more than ever, and this is especially true for manufacturing. As the level of automation increases, I believe the ease of human interaction with technology should increase as well. This poses an interesting challenge for which speech recognition may be a potential solution. Being able to tackle the challenges of the future like this are why I want to pursue a major in Computer Engineering and make a difference in the manufacturing world.