After finishing my undergrad at Lehigh University in May of 2017, I went to work for Pratt & Whitney, a leading manufacturer of large jet engines. Working at Pratt & Whitney has been a wonderful, engaging experience, but it has proven to me that my formal education is not yet complete. At Pratt, there are legions of recent graduates, just like me, with mechanical engineering degrees, or further advanced degrees. I strive to be different, but my current skill set does not replicate this desire. This disparity between my level of expertise and the is why I have chosen to get a masters degree in computer science. A combination of proficiencies in mechanical, aerospace and software is a toolset that will give me the ability to push innovation in cross discipline projects.

I should add that I am not pursuing computer science just to expand my toolbox. Computer science is something that I enjoy practicing in my free time. For example, I learned C++ writing a dungeon crawl game with my dad the summer of my freshman year. On a family vacation when we forgot poker chips, I wrote a turn based program to keep track of the amount of remaining funds each member of the family had remaining. A week before writing this essay, I wrote a computer program to complete Sudoku puzzles because I thought it would be cool to watch a computer do in seconds what would take me 30 minutes to do by hand. And while these small problems are fun to break out logically and tackle with code, I think it would be even more stimulating to be able to effectively tackle bigger problems.

There are many fascinating projects in industry that lie in the cross-discipline region of aerospace and computer science. For example, at Pratt & Whitney one project I was exposed to was the DART project. DART is a tool used to reduce design iteration time for compressor airfoils. In a given design space, DART works by running finite element analysis on multiple permutations of a given parametric airfoil model over a batch processing system. It then takes the results of these runs and emulates expected solutions over the design space. Using the emulators created by DART, an engineer can inspect an airfoil for design pertinent criteria such as modal frequencies, stress concentrations, and expected lifetime of the part. The great thing about DART is that this inspection process, which would take hours using traditional finite element analysis, takes only seconds. And this is just one of the intriguing projects being tackled in industry right now. There are many other opportunities to optimize processes or improve quality, but there is a shortage of people with the necessary talent to attempt problems such as these. With my knowledge and skill set today, I am able to participate and contribute to projects such as these. But this level of involvement is not sufficient for my career goals and ambitions. I want to drive and impact projects in a highly poignant fashion, and a master’s degree from ENTER UNIVERSITY HERE is the clear path to that goal.

Also important to me is the freedom and flexibility of the online learning program at ENTER UNIVERSITY HERE. I want to be able to expand my horizons through formal learning from a university. But I also want to be able to expand on my industry knowledge through hands-on experience working on real world, market problems. Working and completing my degree online concurrently gives me the exclusive opportunity to achieve both of these goals simultaneously.