Personal Statement

I have always desired to gain a fundamental understanding of how the world works, and this drew me to the field of science. I enjoy the scientific process of identifying a problem and determining then executing steps for its solution. More specifically, I came to develop an interest in how technology meshes with our understandings of science to advance society beyond belief. From a very young age, I was fascinated with science and technology and I followed this intrigue through extra courses and self-motivated projects in different STEM fields.

My exploration through various fields of science eventually led me to Computer Science. I love acquiring a problem then challenging myself to solve it, and this passion found its place when I took AP Computer Science. The lengthy and thought-intensive coding assignments we received in class irritated most students. Far from upset, my frustration was somehow exhilarating, fueling more dedication to the task and motivating better attempts. I seek tricky situations because overcoming them empowers me. Inherent with a litany of challenges, computer science captivates me. I enjoy finding the best solution out of the infinite variations of an algorithm, and I decided that computer science was the field I wanted to pursue a career in.

In order to further explore my interest in computer science, over the summer I interviewed numerous professors at the University of Minnesota under the Department of Computer Science and Engineering. After reading many research papers and talking to many of their authors, I decided I wanted to research in a Graphics and Visualization lab under Dr. Victoria Interrante. The work in her lab has evolved overtime and now much of the research she does deals with the future potential of virtual reality. Discovering the extent to which immersive virtual environments changed reality intrigued me and I wanted to a part of this research. My research project dealt with haptics in virtual reality and how it effects the agency a user feels over their virtual hands in a virtual environment. Understanding how a user feels in a virtual environment is an important step in creating a more immersive virtual reality. Immersive virtual reality has many significant applications in entertainment, communication and education.

Throughout my research experience I learned a lot about how virtual reality is researched and how the technology behind virtual reality works. I learned how to use the Oculus Rift, Oculus Remote, and Oculus sensor to view virtual environments, as well as how to use the Leap Motion sensor, to view a model of your real hands being tracked in a virtual environment. I also used the Vicon System to track the position of person and translate that

position into a virtual environment. In addition to these gadgets, I became fluent in a using few softwares as well. I used UnrealEngine 4 to create virtual environments, Oculus software to integrate the Oculus Rift into the virtual environment, and I also used Autocad to design then 3D print attachments for the Oculus Rift.

Being able to work at a lab also broadened my experience and enhanced my education. It allowed me to feed the intellectual curiosity for computer science I had and develop an interest in computer graphics. Now I better understand the extent to which computers can change reality. Virtual reality, augmented reality, holographic imagery, etc. can improve our life experiences as a whole.

In the future, I hope to use my desire to solve challenges to positively impact society. Whether I continue studying the potential of virtual reality, or I delve deeper into a different sect of computer science studies, I hope to continue my education gaining knowledge, and then using that knowledge to advance society further using technology.