University of Washington: Submit a personal statement of ~1000 words (max 500KB) that includes: a) how you became interested in doing research, b) a relevant project or research experience that shows your technical knowledge and skill, and c) your plans for the future in computer science. You may wish to include information about what you feel are the strengths of your application, such as special interests and abilities, or give explanations for what you feel are any weaknesses in your academic record. If you have background that might particularly contribute to the intellectual and social enrichment of the program, please describe it. Examples include unique educational or cultural opportunities (or lack of them), social and economic disadvantages that you may have had to overcome, and interesting or unusual influences on your intellectual development.

Since I was very little, I have dreamed of changing the world to a better place. This desire is only becoming stronger as I grew up. When I was 14, I fell in love with visual arts. I greedily consumed the great works of cinema, TV series, storytelling video games and VR shorts. I believe that visual art is the best way to reach to each one’s inside and bring us together. In the first summer of high school, I attended a filmmaking course at Emerson College, and I made lot of videos and short films ever since. Then, I became an undergraduate in Pomona College as a film studies major.

I am grateful for the freedom I had in here in exploring my interest. As I delved deeper into the field, I gradually realized the importance of technology on the development of visual art. As I saw the visual effects in movies like *The Curious Case of Benjamin Button* and *Avengers*, I was attracted by how graphics technology could waive into the storytelling. I realized that technology and art are related rather than separated. Around the end of the sophomore year, I decided to become a researcher in technology for visual art.

The exploration in academics was not smooth. I first looked into computer graphics, and yet there was no professor in Claremont colleges who led projects in this field. I joined my first research group in the last summer. It was a group of two students, led by professor Katherine Breeden. I helped her build a C++ pipeline that played music videos while reading the eye tracking data from Gazepoint eye tracker. It was really challenging to understand the code that had over 30 .h files. By the professor’s suggestion, I learned to draw trees that represented the relationship between classes. Eventually, I understood the code and refined the threading process which caused the lag of video playing by about 300ms. Eventually, I statistically analyzed the frequency of each kind of eye movement with respect to the speed of editing. Another valuable lesson I learned was presentation – how to make your idea or proposal sound more interesting. As we were in the experiment process, I could hardly get other research students to come and watch music videos. Nonetheless, my partner almost always succeeded. As I observed, she introduced introduction of two of the MVs that she really liked with zeal, and thus really attracted the students to become participants. I thus realized the importance of presentations. In the future presentations, I made sure to focus on only two most important details and convey with enthusiasm.

Then, I self-taught machine learning and computer vision, since the courses in my college were too packed. I started a facial recognition project with professor Weiqing Gu…

Earlier in this year, I read about the exciting work of NeRF: Representing Scenes as Neural Radiance Fields for View Synthesis by Mildenhall et al.

In August, I also started working with professor Sra from UCSB on an AR language learning project.

Not every period of my research experience was fruitful, yet I learned a lot in each of them. By constantly exploring, I have had a better understanding of what is required to be a researcher. It needs a well-rounded knowledge in the field, a collaborative spirit and leadership, a tenacious mind and a constant willingness to learn new things. I have harnessed these merits in my experience, and thus I believe I will be a qualified researcher.

Over 2000 years ago, the Greek philosopher Plato argued that the theater was a futile activity since it was an imprecise representation of real subjects. For instance, those who enjoyed a work about war could learn it much better by consulting a general. Nonetheless, his disciple Aristotle contended that theater was not meant to offer knowledge, but a source of emotional catharsis. I have a very similar view on technology. While we develop more capable machines and algorithms, we should also give people better ways to express their feelings and build communications. Life is not all about functionality.

I envision the future entertainment in full-view live VR. As we develop real-time neural rendering, we can apply it in VR scene generation. People can enjoy a theater work on a VR headset. They can move around and view from all angles – even standing on the stage with the actors. They can also see other audience and make contact with each other. I wish to help build this immersive and interactive experience.