3. I became fascinated with dark matter because before the development of this hypothesis, scientists were not able to accurately create a model for the formation of the universe. I grappled with this for some time: after all of these years, we are still no better in predicting how the simple shape of a galaxy is formed? Dark matter seemed to be the mysterious *click* that unified the theory; the "eureka!" moment that provided light in the darkness of ignorance. Gaining a better understanding of how they would be detected is a topic that I have wished to pursue, but have not had the resources to do so in the past. With the help of professors and peers, I believe that I will be able to better understand the current published literature on this topic and perhaps conduct experiments on the detection of WIMPs.

I have struggled to understand the energy-crisis since childhood, the most pressing issue for the world in the 21st century. I researched and conducted experiments on ammonia based cars for my Imagine Tomorrow project and designed a smarter energy efficient home for implementation. However, after reading additional literature, I realize that only a revolutionary insight could solve this enormous problem. My dad has led me to explore the power that Traveling Wave Reactors could bring to the world. Obtaining full energy independence is bound to take many more decades, but a journey of a thousand miles begins with a single step. The responsibility will fall upon my generation to uphold a green Earth, and to sustain the future. I therefore enjoy researching the challenges of fuel rod control and implementation design that TWR needs to solve.

4. My long range goal is to bring the laboratory into the world all around me, through the implementation of research as well as in compelling my generation to become more passive. I firmly believe that every person has an innate capacity to be a blessing towards others in the world, which can particularly be explored in science. I see myself making the lives of other people around the world better through ingenuity and proper implementation of concepts, creating peaceful and powerful solutions that the world can unify on. Moreover, I believe that the most amazing advancements begin as a quest for the aesthetical beauty in science, so that in order to reach my goals, I wish to first work up from being a researcher.

5. As a leader in my community, I love getting peers excited about the future of science, providing opportunities through the multitude of clubs I have founded and led. After winning the "Most Innovative" award at the Imagine Tomorrow Science Competition, I found passion to begin a chapter of the Science National Honor Society to provide others the same opportunity. I moved to reorganize the Math Club to better prepare students for the AMC and AIME competitions. From there, I also led our mathematics club to host the Interlake Invitational Mathematics Competition, a student created event for local math teams to participate in. I created an experimental-based curriculum as the President of the Chemistry Club, and restructured the Science Bowl club in order to actively engage students. I serve as the Chemistry Department Head for the Washington Science Student Association, with a 13,000 dollar endowment for the 2014 year. We are a non-profit that provides research opportunities with the UW and local laboratories, invites professors and professionals for STEM lectures, and hosts the Students of Science competition, an AP and Olympiad style competition for students throughout the state of Washington.

I took the initiative to attend the Washington Aerospace Scholars program, a college level aerospace course. After learning statistics on Udacity, I attended a data presentation course by Edward Tufte. However, this is not because my workload in school is too light; instead, the

opposite is true. The heavy homework only prompts me to discover more in depth information about why things work, knowledge that may not be covered in a standard class.

As a graduate of an EPGY "Frontiers of Physics" course, I understand that there are many like-minded peers who also enjoy dabbling in science. I have the willpower and the determination to thoroughly practice and understand complex topics. I am not afraid to grapple with my own demons and to admit when I am wrong, because only in the darkness can we see the light.

6. I am passionate about every single topic that I engage in. One of the greatest opportunities I have had is to actively debate the future for student education with Student Voice, a nonprofit organization that I am engaged in as a planner and a coordinator. As the leader for the Satellite Event committee, my primary focus will be on connecting as many students as possible to this opportunity. Engaging in challenging ideas that question my fundamental beliefs is not something that disturbs me, but instead provokes me to draw better conclusions. As someone who has planned TEDx events and coordinated high school events as an elected class officer, I understand the thrill that ideas can bring to young people. I wish to inspire and be inspired.

I constantly volunteer my time to help classmates understand material. I believe that the best way to demonstrate mastery is through teaching a concept to another person. Therefore, I am extremely precise with my communication skills, spending time with the award winning Interlake Debate team to learn more of these skills.

I have shown commitment and dedication to other groups such as the Bellevue Youth Symphony Orchestra, having attended a city orchestra since the age of 7. Consistently engaging in critical thinking activities, such as the Future Problem Solvers competition and the Knowledge Bowl event, I bring new ideas to the table. Above all, I have shown fierce determination in seeing an idea through to its end.

7. With regards to software development, I have taken formal courses such as the AP CS course as well as Java courses taught by professors at the University of Washington. I have focused on learning hardware as well, assembling several servers and building 8 computers to work with GPU parallel processing.

In regards to data analysis, I have completed several IB labs that required large data sets, such as video analysis and the access of professional databases such as the TYCHO database for stars. In my essay on stellar distances, I researched an equation using some 400 self-collected data points, and then confirmed my results with the use of NASA databases.

I am fascinated with the current crypto-currency boom, and devoted a large amount of time to researching crypto-currencies and how to optimize systems to mine for litecoins. In this process, I have rekindled a love for not only the software of computers, but also understanding the hardware.

8. MIT has an excellent page in regards to summer camp opportunities for high school students; I have been refreshing it every month to see if anything new was added. I have known about RSI due to the high caliber and precedent that it sets for everyone, but more so for the excitement each student has for the opportunity. After much research, I realized that this camp suits me for my explorative side as well as providing the chance to meet like-minded peers.

9.

Most Innovative Award at Imagine Tomorrow Competition at WSU (2012)

Project Leader for Interlake team at Microsoft's Hunt the Wumpus competition (2012)

National AP Scholar - Earned in 2013

AP Scholar with Distinction - Earned in 2013

Chemistry Department Head at Washington Student Science Association (2013-2014)

Host and Organizer of Interlake Invitational Mathematics Competition (2013)

President of Chemistry Club (2013-2014)

Elected Class Officer for the Class of 2015 (2013-2014)

8th Place Winner at Washington Future Problem Solvers - State competition (2013)

Committee Member and Coordinator for TEDxRedmond 2013

Participant of the Symetra July 4th Celebration in Bellevue Downtown Park (2012 & 2013)

Candidate of the International Baccalaureate Programme at Interlake High School (2012-2014)