**1) What are some career goals you have for yourself at the moment? How might the OEOP programs help you attain these goals?**

Since entering high school, I have been interested in computer algorithms because of their logic and elegance. As a result of my curiosity surrounding them, I would like to pursue a career in computer science, specifically in the field which has most captured my attention, artificial intelligence. This new subject of study has great potential, as it can be used to solve abstract problems that we encounter frequently throughout our daily lives, and I would like to experiment with its many applications while it is still in its infancy, as there is more untapped potential in this subject than most others in computer science.

While a career at a large tech company such as Google or Amazon has immense appeal, I would most like to conduct research in the academic domain as a professor at a university. In this way, I could conduct my research in the most ethical way possible, as I would know that my contributions to the field would directly be used to violate the privacy and freedom of the general public. Additionally, I would have greater control and freedom with my projects.

The OEOP programs will help me to reach this goal because they will allow me to take classes in computer science that I would otherwise not reach until college. At my high school, the highest level of computer science class is still fairly introductory, and I am eager to broaden my horizons within the field before college so that I will have more time in college to focus on the subfields of computer science that interest me most. Specifically, I would be most interested in taking a MOSTEC class such as the previously-offered “Robotics and Computer Science,” as I have not had much experience programming with hardware yet.

**2) Which one of your extracurricular or volunteer activities is most important to you, and why?**

For the past two Junes, I have woken up at 7:30 in the morning every week day and driven to school to sit on a bus. While I am sometimes quite tired and annoyed at the early time of this volunteering activity as I sit on the bus, my reservations melt away when I remember the destination of the bus, Berry Elementary.

Berry Elementary is an elementary school situated in a Hispanic, economically-impoverished neighborhood, and although it performs relatively well on end-of-year standardized tests compared to other schools of similar backgrounds, many children are inevitably left behind as a result of the rising class sizes and shrinking state education budget. Throughout June of every year, these children who performed at a sub-par level must attend classes in a summer school and pass another exam in order to advance to the next grade level.

It is at these classes that I volunteer as a teacher aide. In this role, I often work with those struggling the most in the class. In order to help them succeed, I have learned that I must not only cover all of the material, but most importantly engage with the student. I love this volunteering activity because it gives me the opportunity to give back to my community through uplifting those who are disadvantaged using skills which I have learned in school. For instance, I often speak Spanish with students in order to get across a fundamental point. I also draw upon my loves of math and reading in order to get the students excited about the material. Ultimately, this volunteer work (as well as all other volunteer work I do) is worth the early mornings because I enjoy being able to give back to the community in a productive manner.

**3) How has your racial, ethnic or cultural identity impacted your academic development or shaped your academic aspirations?**

While my identity as a Hispanic, Indian, and multi-racial individual has had no direct effect on my academic development, it has definitely had a psychological effect. Throughout my entire school career, I have never met another Hispanic-Indian student or teacher. As a result, I always feel somewhat distinct from the rest of the class. I can never fully relate to anyone’s background. This feeling of being an outsider is intensified when I am around other Hispanic or Indian classmates; I have often been told by one of them that I am not a “real” member of their community. While I have tried not to let my status as a racial and cultural outsider restrict my academic success, it is likely that the psychological effects of never feeling completely comfortable may have led to slightly-lower grades than I could achieve with my full potential. Additionally, the lack of role-models of my specific racial background or even of a Hispanic background in the technology industry has at times discouraged me, as the thought of being the first to achieve major success within the field is daunting.

My unique identity, however, has proved useful in my academic development as well. In English and History classes, I have been able to easily relate with outsiders of a variety of communities such as Hester Prynne in *The Scarlet Letter* or Irish immigrants in the Gilded Age. This ability to emphasize with such characters has deepened my analysis and understanding in both subjects, and it is for this reason that I enjoy them just as much as those that interest me intellectually such as Math and Computer Science.

**4) Please describe a significant challenge you have faced, and how you overcame it. (This challenge can be personal, academic, or social).**

Throughout Middle School, I never had to study for tests or work particularly hard on projects in order to receive an acceptable grade. As a result, by ninth grade I had developed awful study habits, particularly in my better classes, math and science. These habits produced less-than-desirable results; within the first month and a half of school, I had accumulated two B minuses on Bio Honors tests and two B minuses on Geometry Honors tests. My relative success in middle school had led me to define myself through my grades, and as a result I was appalled and bewildered by the situation. This identity issue proved greatly unsettling, so I resolved to correct my grades in order to put off the larger personal dilemma. I realized the root of the problem (my lack of strict studying habits) and corrected it. The hard work produced by this correction eventually raised my grade in both classes up to an A by the end of the semester.

While I learned how to exert the appropriate amount of effort in school, the most significant result of my unsatisfactory start to high school was the creation of the questions regarding the relationship between my grades and identity. After my grades stabilized, I decided to explore new activities offered by clubs and the fine arts department. I became more interested in choir. I worked at the local food bank on Saturdays. I joined the MicroFinance and Young Liberal clubs. I began to explore computer science outside of the classroom. This early period of high school provided a foundation for the rest of my high school career through exposing me to people and activities with which I otherwise would not have come into contact, and ultimately I am thankful for the initial struggles that launched it.

**5) If you could develop, invent, or innovate anything to change the world for the better or improve the lives of others, what would it be, and why?**

As a resident of Houston, I am no stranger to daily traffic. On average, my classmates and I spend at least half an hour in the car each day when most of us live within two miles of school. Two aspects of this dilemma that have always stuck out have been the similarities of the routes people take as well as the constant timing of traffic lights in the city. If I were to have complete control over the municipal traffic lights, I would implement a program that would change the timing of lights based on traffic levels in order to minimize the amount of time spent in cars.

The first step in this implementation would be determining the number of cars at a stop. This could be done using the cameras at lights and object recognition machine learning algorithms. The traffic stops would then send this information to a supercomputer centrally located as to minimize the average time it would take for a traffic stop to convey the situation to the computer. This supercomputer would collect data for some time, but eventually it would start to realize traffic patterns and learn how to best configure the lights in order to beneficially impact traffic times.

Although this innovation appears superficial and insignificant, I believe that it would augment people's’ overall happiness, as they would spend more time doing the activities they enjoy rather than driving to them. Additionally, it would save the public funds, as less driving time would lead to less wear on the roads, and also reduce carbon emissions, thus, combating global warming.