1. How did you discover your intellectual and academic interests, and how will you explore them at the University of Pennsylvania? Please respond considering the specific undergraduate school you have selected. (300-450 words) For students applying to the coordinated dual-degree and specialized programs, please answer these questions in regard to your single-degree school choice; your interest in the coordinated dual-degree or specialized program may be addressed through the program-specific essay. \*

As an eight-year-old child, I used to look forward to the time when my father taught Mathematics to my older sister. I used to sit with the two of them and tried to understand the topic although it was way above my grade. It used to bring me immense pleasure answering the questions my father used to ask my sister because it meant that I understood portions that were ahead of my age and it boosted my confidence.

From the time that I remember, I have always answered the question “What is your favourite subject?” with “Mathematics”. It is the only subject that I enjoyed spending time on. I slowly realised that it was my passion and I could do it all my life.

I discovered it further when, in my 10th, 11th and 12th grade, I was given the opportunity to teach the younger students, of my school, a subject of my choice. I naturally chose Mathematics two out of the three times and was awarded best teacher for that subject. This showed me that my concepts were clear enough for me to conduct a productive and interactive class. Also, when I participated in the International Mathematics Olympiad, I topped the school rankings for my grade.

I enjoy solving logical reasoning questions, riddles and sudokus. I am also quite interested in word puzzles and crosswords as well. Hence, an inclination for Physics and Computer Science came naturally as well. I was most fascinated by nuclear and quantum physics and I particularly enjoy the programming part of computer science.

I hope to develop on my mathematical skills and explore more on how to connect it to other subjects that I am interested in, like Physics and Computer Science. I wish to eventually, discover a way in which to maintain the critical balance between the human world and nature and I believe this cannot be done without a Mathematical background.

1. At Penn, learning and growth happen outside of the classrooms, too. How will you explore the community at Penn? Consider how this community will help shape your perspective and identity, and how your identity and perspective will help shape this community. (150-200 words) \*

My exposure to co-curricular activities have been limited to sports, music and dance. I would love to be exposed to many more of the programs available in the University of Pennsylvania to broaden my perspective and for me to explore where my talents lay. The programs I am most interested in are the Annenberg Center for the Performing Arts, intercultural leadership and the 60-second lectures. I wish to explore the performing arts workshop to find out more about my hidden aptitudes. I believe I can become a good leader with the right guidance like that being provided by the university of Pennsylvania. Lastly, I am the keenest to witness the 60-second lectures as I am certain I will learn a lot from that one minute and it will boost my interest in the topic.

I believe the University of Pennsylvania provides a platform for one to showcase their talents and allows them to work on and improve the same. Having participated in several cultural and athletic competitions inside and outside of school, I trust myself to uphold the name and standard of the university and will try my best to help the university scale to greater heights than it already has.

1. AI Prompt: Why are you interested in the Computer & Cognitive Science: Artificial Intelligence program at the University of Pennsylvania? (400-650 words) \*

I enjoy the process of creation - it can be coding a simple program or building a fully working robot. I discovered my interest in computer science further when I did a robotics course during my summer vacation last year where I created a small four-wheeled robot that could avoid obstacles. With a small change in the code, it followed a designated path on the ground. This is when I realised how every line in a code is important and how a small change could completely reverse its function. This new information fascinated me a lot and I began giving more attention to my computer lessons once school started where I was taught the programming language JavaScript. I also completed a course on Android mobile application designing. These courses got me further interested in the domain and the following year, I studied a course on embedded systems which is where I learnt how my robot could be voice controlled and I successfully incorporated the same in my robot. During these courses, I realised my clear interest in the same and hoped that I could continue in the same field.

I believe that the humans have ruined the Earth to an extent that it is almost irreparable but as every other human, I am also relying on the word “almost”, hoping that a change is brought about before the damage becomes permanent. I want to be a part of bringing the Earth back to its original beauty. Though I realise that it would be almost impossible for Earth to return to its initial strength, like before humans, I want to try and bring it back as much as I can. I want to do this by creating a program or a robot that will try to reverse the small but impactful mistakes that humans make on a day-to-day basis. This can be from collecting the waste in the ocean beds and accumulating them on land to use as building material instead of more concrete and cement to making sure that germination, growth, reproduction, pollination and all other plant processes take place undisturbed. A machine created by humans, to correct the mistakes made by humans.

Though I know that I may not be the first who would like to use technology not only to benefit humans but other flora and fauna as well, I do not wish to give up on the idea because other people were unsuccessful. I believe that success is just a few steps behind failure, and one must need the will and optimism to get to the success and I trust myself to have the same.