Space Development is important because…

What does it mean to be human? What is our purpose? Are there others like us? What is our place in the universe? Are there other universes? And at the end of the day, who are we…? Each of these questions are unanswerable in their own respects and for their own reasons. These are the fundamental questions of our very existence, that could exasperate hedonists or cause existential crises for others. Space Development is at the heart of everything the human race may stand for because the progress of our species cannot be limited to just the scope of our singular planet when the last two hundred years have taught us of the vast limitlessness that exists beyond our solar system, encouraging us to see what lies beyond the sights of our eyes and beyond the pages of our freshly written history.

To determine the importance of Space Development requires seeing the effects of the past. The origin of it can be traced back to the 1950s, at the onset of the Cold War. On 1958, President Dwight D. Eisenhower created the National Aeronautics and Space Administration (NASA) with the basic goal of advancing space science and a more covert one of proving its industrial superiority over the U.S.S.R. This catalyzed the Space Race, a space supremacy battle between the United States and Soviet Union that resulted in satellite launches, LEO space probes, and even the moon landing. These accomplishments were accompanied with a technological boom in the fields of global positioning, telemedicine, and micro processing that were necessary to facilitate such endeavors. For the next half century, improvements would be made in the human spacecraft, communication systems, and propulsion components to make space travel more cost-effective and efficient. NASA ultimately served as the expedient for space travel possibilities. However, with the 21st century came a shift in goals: SpaceX, a private contractor that would work in cooperation with NASA, was shifting priorities from interstellar travel to colonization. During the Florida Astronaut Challenge that I competed in, SpaceX launched its first Falcon Heavy rocket-assisted satellite into space, marking the first successful use of the rockets that is being planned to handle missions to Mars.

But the big question is clear: why go to Mars? Why look beyond the atmosphere of our own blue beauty?

“We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard,” says John F. Kennedy. But not all of us are the idealists that JFK was. Scientific evidence shows that global warming is an ongoing phenomenon but most people turn a blind side to it because its effects aren’t so eminent, and in much the same way, people view space exploration as a waste of taxpayers’ money for its non-

explicit benefits to society and the world in general. But in the way that the eventual sea level rise will prove disastrous and galvanize people to the issue at hand, the problems that may arise from negligence of space development will soon come to the forefront of society's priorities. And these problems are by no means small in repercussions: ranging from depletion of natural resources such as fossil fuels and drinkable water to expedited global warming and habitat loss, from overpopulation and food shortages and rationing to pandemics, the population rise will eventually lead to these inevitable conflicts. The carrying capacity of our planet and its lifespan may be far from being exceeded, but it is being reached at an alarming pace that must be considered well in advance of its advent. And the solution to this is simple: beyond Earth.

Colonization of other planets alleviates overpopulation; material mining of other terrestrial planets and asteroids adds to our resource treasury; the possibility of water on Mars and Jupiter's Europa; the relocation of carbon emissions outside of Earth's atmosphere. And the ultimate goal: finding the next beautiful planet that we may be able to call our home. So, space developments can be viewed in two different perspectives: one of idealism and one of pragmatism. The idealist sees human progress in its ability to push the frontier of exploration beyond our own planet and even solar system while the pragmatist sees the inevitable issues that will result from prolonged inaction. Both types of people will therefore see the same solution: space development is the solution, and it is the way to answer the fundamental questions.

But it is also the source of inspiration for so many young kids such as myself. I grew up watching movies like Interstellar, Apollo 13, The Martian, and 2001: A Space Odyssey and reading science-fiction obsessively. I went to the temple to attend Space Camp and jump on any opportunity to use telescopes and catch a glimpse of our neighboring planets and galaxies. I had no hesitance to make each of my History Fairs on the history of space exploration and technology and its pioneers. And most significantly, I am currently considering Aeronautics as a potential major or minor during my time at the Georgia Institute of Technology as an Undeclared Engineering. I have learned of my desire to play a big role in the course of mankind through my extensive volunteering services and my interests in machine learning and artificial intelligence, subfields of computer science that I believe will revolutionize the way that we interact within our technological society. However, the course of history operates on paradigm shifts, not efficiency improvements. History does not look as sharply towards the development of the Apollo space program as much as it does Apollo 11. The future of space exploration is so full of paradigm shifts, from the moment we start colonizing the Moon or Mars, to the time we start traveling beyond our solar system… to the point where we can consider the environmental problems of Earth no longer an issue.

Space Development is important because our future generations will need to look for solutions to our problems by thinking outside the box, and our box happens to be the little blue sphere we call home.

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As of right now, the subfields of machine learning and A.I. interest me the most, causing me to lean towards Computer Science as my most probable major. I hope to acquire a job that reflects my greatest interests in these subfields because I feel these fields will change the way that our technological society progresses, and to be a part of that paradigm shift, of something revolutionary in human history, is something I covet.

My major as an Undecided Engineer at Georgia Tech, however, reflects the diverse palette of experiences and interests I have from high school (hospital volunteering for Biomedical, Robotics for Mechanical, etc.), and I plan to explore them further. By collaborating with many motivated, passionate students such as myself and engaging in experiences such as Study Abroad, Co-Ops, and potentially an internship, I hope to discover my true interests and work my way towards a Master's degree in whichever field I fall in love with.

I was born and raised in Jacksonville to a mother and father who moved to America for better job prospects. I am part of a nuclear Indian family, the older sibling to my thirteen-year-old brother, Romir. My parents have worked for multiple companies such as CSX, NTT Data, and Merrill Lynch. My father has an MBA in Finance and both of my parents have degrees from India in Technology. My passion for science and engineering is mainly in part due to my parents' professions and interests.

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