**Abhishek Tumuluru - University of Pennsylvania Essay**

If I could summarize my love for engineering, I would do so by speaking of applied mechanics. I long to design and engineer products or machinery and modify technological processes. Last year, when I started my study of Newtonian mechanics and electronics in my eleventh grade Physics class, I finally understood that Engineering is what I am extremely fond of.

It all began when I started watching do-it-yourself science videos on the internet. I had heard of Guass rifles several times before in shooter games, but had never seen one in action. The first link that appeared on the screen that day was: “How to build a homemade Coilgun - Tutorial”. At first, I didn’t care about the specifications and items required, so I quickly skipped ahead in the video to the last few minutes. It was only when the person in the video shot through six soda cans and an old laptop lined up in a row did I think “Wow, that was cool!”

That video changed the way I thought of Physics. It was no longer just about memorizing formulas and drawing circuit diagrams. “Did magnets really do that?” In the video’s description section, the producer provided a list of parts and their prices which totally cost fewer than four dollars. If someone on the internet can make such a device with inexpensive PVC pipes and tarnished copper wire, why can’t I? I saw great potential in the concept of magnetic acceleration and levitation, and continued my study of Electromagnetic propulsion technology in my free time. I have plans to build my own three stage acceleration mechanism by the end of this year.

This is why I love engineering.

The University of Pennsylvania’s MEAM Design and Prototyping laboratories (especially the Mechatronics lab) in which the summer course will be conducted seem like one of the best places for me to design and produce what I want, with sophistication and the guidance of excellent professors.

I am completely aware of the rigor and dedication required of an engineering student in this course but I am very eager to explore and display my zeal for engineering to my peers, my professor, and my community.