**Prompt 1**

**How do your interests directly connect with Cornell Engineering? If you have an intended major, what draws you to that department at Cornell Engineering?  If you are unsure what specific engineering field you would like to study, describe how your general interest in engineering most directly connects with Cornell Engineering. It may be helpful to concentrate on one or two things that you are most excited about. (250 words)**

Computers and I, we seem to have a similar predilection for straightforward, methodical, literal language. As a result, I thoroughly enjoyed learning computer languages. Through years of computer lessons, I’ve found joy and motivation through communicating with these marvelous machines. I’ve discovered their limitless potential as efficient and indefatigable machines, just that their capabilities are limited to the skills of the programmer. This inspired me to study programming to nurture those computers into something big, capable of changing the world for the better.

To do so, I believe that I would require not just an abundance of knowledge, but a chance to implement those knowledge into real-life projects. I believe that Cornell Engineering would be the best place for me since it not only provides prestigious courses taught by esteemed professors like Jon Kleinberg and Kavita Bala, but it also provides practical opportunities to collaborate on projects with peers and faculties. I intend to expand my connections, placing myself in a positive community of engineers with similar interests, and attain a deeper understanding of computer language through working on real projects by participating in Cornell’s Big Red Hacks and being a part of the Cornell AppDev. I also aspire to start my own technological start-up in the future, hence looking forward to participating in Cornell’s SENSE and 3 Day Startup program to hone my entrepreneurial skills and perhaps meet some future partners along the way. Through these programs, I would get my start-up mentored by successful professors and entrepreneurs whilst exposing myself to great ideas of the other participants that might inspire my own.

**Prompt 2**

**Describe an engineering problem that impacts your local community. This could be your school, neighborhood, town, region, or a group you identify with. Describe one to three things you might do as an engineer to solve the problem. (250 words)**

Before the pandemic, me and my classmates did a social campaign teaching in public schools around Jakarta about the dangers of non-recyclable wastes and ways to mitigate them. But during our campaign, we discovered another issue: The lack of educational facilities received by the public schools of Jakarta which concerned us of their inability to provide adequate practical education. The absence of laboratories and scientific equipment means that students there are unable to perform experiments necessary for their education. After some digging, I found that the major cause for this is cost.

I then recalled a scene from the movie Iron Man where Tony designs his first iron suit by projecting responsive holograms and  interacting with them just like a real object. This scene opened my eyes to the potential of virtual and augmented reality technologies to replace expensive tools. I dream to create a software capable of simulating experiments within mixed reality where students can interact with the scientific equipment projected while following instructions from the software. Teachers can monitor their student’s work from a separate screen.

Instead of spending funds on expensive equipment and a laboratory, schools can instead prepare VR or AR glasses fitted with the simulation software to conduct the experiments, saving a lot of money. By conducting experiments through virtual simulations, this ensures the safety of the students. Furthermore, this solution is also safer for the environment since dangerous chemicals do not need to be used, and experiments do not produce harmful byproducts that may pollute the surroundings.