Applying to: HKU, CUHK, HKUST, as a mechanical engineer  
  
Creativity; something that I have always felt passionate about, is a major reason I want to expand my knowledge on Physics. Watching my grandfather exploring the repairing of broken machines from multiple angles fascinated me; especially times when he would find it impossible to repair or the many failures he encountered. These and my love of watching science fiction movies such as Star-wars, Avengers and Back to the Future, made me ponder the many unknowns still present in the field of Physics and whether or not it can be achieved at some point. Therefore, in hopes of finding the answers to these questions, I would like to further study and develop proficiency in Physics, with mechanical engineering as my main interest.

To pursue knowledge on this, I have been actively studying it in and out of school. For my extended essay, a requirement of passing the IB curriculum, I explored tuned liquid dampers, a mechanism that can dissipate earthquake forces on a building. Though there are better dampers available, keeping cost in mind, they are not exactly the best options, especially in poorer countries. Therefore, I formulated a solution that could make dampers more effective and capable of standing toe-to-toe with the best dampers. Additionally, I read Michio Kaku’s Physics of the Impossible to investigate more on this major: mechanical engineering. This book elaborates on his theories about how in the future many of what is deemed to be impossible today will be possible. I find one of his arguments to be really clever, that in the nineteenth century and the early part of the twentieth, basic laws of physics were unknown and therefore were considered as “improbabilities”, such as black holes, x-rays and even the internet, but now these are commonly used and known globally. From this book, what intrigued me was not the content, however it was the evident advancements in technology and machines that is shown by Michio Kaku.

I was selected as one of the orientation group leaders in my school, this not only shows that I have the attribute of being a leader but also capable of working together as a team to make the orientation more organized. While juggling with school work, I also serve as a teacher to younger refugees, teaching them Mathematics, thus showing my capability of communicating with younger ages and using my knowledge for the better good by sharing them with people who are less fortunate than me. I also ensure to keep my non-academic life active, by playing sports; tennis, golf and going to the gym, and I can also boast my creativity through my artworks. My problem solving skills are also highlighted: I have won many mathematics competitions, such as AMO, SEAMO and SINGA. I look forward to using these abilities in university and I believe it will also help me stay motivated in the study of mechanical engineering.

I aim that after gaining higher knowledge on this subject, I can contribute to the creation of the impossible and the advancements in technology. Furthermore I am also interested in amplifying the depth of my extended essay and finding a way so that tuned liquid dampers can become more efficient than the other dampers.