**Research Statement**

**Please propose a research topic that you would like to undertake in the program, the technical potential and real-world relevance of the topic, and how do you think our program could equip you to work on the topic. We encourage you to upload a pdf document. Your file attachment should be less than 5mb. Please attach your file and name them appropriately.**

My undergraduate training leans towards Operations Research rather than Data Science. In the past 7 years of my career, I have spent 4 years of my career in the domain of OR and only in the past one year or sontly I have been cross-trained in Data Science. Some high impact OR projects that I was personally involved include the following:

* Facility location optimisation – application of Mixed-Integer Programming to find the optimal locations of facilities to meet certain user-defined demands
* Manpower modelling – application of Discrete Event Simulation to m

Therefore, I am open to either explore deeper into OR topics or explore new ‘territory’ i.e Data Science or even to go into how both domains intersect. I do not have any specific topic in mind either of the categories but I would envision that my research would be one that can benefit Singapore as it moves towards Smart Nation and/or address its resource limitations. Some possible topics that I can think of include the following:

* Geospatial-related optimisation– with limited land and resources, how best Singapore locate or deploy facilities or resources given dynamic constraints.
* In the area of Data Science, I would like to explore ways to understand the various Machine Learning algorithm such as regression (linear, ridge, logistics, etc), k-nearest neighbors, support vector machine, etc and how best to evaluate these algorithms and translate them into tools or format (such as visualisation) where business users can understand and self-serve. This is because I foresee that more and more people, even business users will be the operators of analytics in the future and thus a need to bridge the gap in a more innovative and effective way.

In all, I hope that the program will equip me with the necessary skills both technical and soft skills to achieve my career goal as a bridge that fills the gaps between business users and technical counterparts. Thus, exposure to other industries beyond my current domain (homeland security) would be beneficial.