My father, a contractor who builds the very foundations of our society – roads, bridges, dams, and hospitals – for government projects, instilled in me a valuable lesson: innovation thrives on adaptability. Gridlocked by feuding farmers refusing fair land sales, my dad, a builder of our society's infrastructure, showcased true adaptability. Bypassing pressure, he listened, valued their land, and championed community benefits - a win-win solution. The road brought progress, uniting the once-divided farmers. Witnessing his resourcefulness instilled in me the power of adapting to overcome challenges. In today's ever-changing world, that's a skill worth holding dear.

This very spirit was tested during my internship at National University Singapore. Assigned to the "Multicategory Spam Classification" project, my initial excitement turned into a jolt of reality. My NLP knowledge was lacking, threatening to hinder my contribution. Channelling my father's relentless learning, I spent the next day and night engrossed in online tutorials and research papers. Collaborative sessions with my team further fueled my understanding. Within a short timeframe, I wasn't just equipped to contribute, I hit the ground running, spearheading innovative NLP approaches. Disparate datasets? No problem. I meticulously wrangled them into a clean, learning-ready powerhouse. In NLP, clean data is king, and I ensured our model thrived. Our collective effort not only propelled our project to the top 3 but reaffirmed the power of rapid learning in innovation. My fascination with innovation stems from the power to create positive change. But the true spark ignites when I envision translating ideas into tangible solutions. This drives my desire to learn about patent laws – understanding how to protect my innovations is crucial for navigating their path to commercialization.

My research project on "Optimizing IoT Security: A Machine Learning Pipeline for Fast and Accurate Intrusion Detection" demonstrates my resourcefulness and commitment to innovative research. By proactively securing the mentorship of the esteemed Prof. Tan Wee Kek, I've gained invaluable guidance in this complex field. This project achieved an accuracy of 95.2%, reducing the inference time by 50% compared to deep learning models Working on this cutting-edge topic with limited prior exploration underscores its novelty and potential for impactful publication at a relevant conference.

During the internship at IIT Dharwad also provided me invaluable experience and helped me to hone my research skills. I developed and deployed an Object detection model which also calculates the distance between the objects using similar triangle properties and YOLOv8 on Nvidia Jetson Orin Nano, gaining hands on experience with edge devices and solving deployment challenges. This experience, focusing on real-time applications like vehicle safety, further solidified my problem-solving skill and technical understanding.

Further fueling this journey is the unwavering perseverance I inherited from my mother. The "never-say-die" attitude I possess, coupled with a disciplined work ethic, allows me to achieve ambitious goals. However, I recognize the importance of continuous learning and collaboration. These diverse experiences have not only honed my technical abilities but also have emphasized the importance of global collaboration and cross-cultural understanding in advanced innovation. In an increasingly interconnected world, the ability to navigate global challenges while leveraging diverse perspectives is crucial.

This is where the Max Planck Internship program stands out. The research-oriented program perfectly intersects with my desire to build and test. Learning from experienced faculty and potentially accessing resources for commercial development would be invaluable. Beyond the practical skills, I crave the chance to connect with like-minded individuals and be inspired by those constantly pushing the boundaries of innovation. This program fosters that collaborative environment where I can learn from and be inspired by smarter minds, further fueling my own growth as an innovator and a future researcher.