

Dear Admissions Committee,

I am writing to express my strong interest in pursuing graduate studies in your [specific program name]. As a recent graduate with Honours (Highest Distinction) in Aerospace Engineering with specialization in Mechanical Engineering, I am excited about the opportunity to contribute to cutting-edge research in your department.

My academic background has provided me with a strong foundation in both theoretical and applied mathematics, combined with practical experience in computational modeling and machine learning applications. My accelerated Bachelor's program at NTU, completed with highest distinction, has prepared me well for the rigors of graduate-level research.

My research experience includes working on machine learning applications in computational mechanics at ST Engineering, where I developed novel approaches for parameter sensitivity analysis in engineering systems. I have also investigated advanced materials science research, including parametric modeling approaches for hydrogel materials and fracture mechanics analysis using modified phase field methodologies.

My research interests align closely with your department's focus areas. I am particularly interested in:

- Computational mechanics and advanced numerical methods
- Machine learning applications in engineering and scientific computing
- Optimization algorithms for complex engineering systems
- Uncertainty quantification and probabilistic modeling

My technical competencies include:

- **Research Methods:** Statistical analysis, computational modeling, experimental design, data validation
- **Programming:** Python, MATLAB, Mathematica, C, statistical computing
- **Machine Learning:** PyTorch, NumPy, SciPy, statistical modeling, neural networks
- **Mathematical Tools:** Linear algebra, probability theory, information theory, optimization

I am committed to advancing scientific understanding through interdisciplinary research and would welcome the opportunity to discuss how my background and interests align with your research programs. I am confident that my combination of strong analytical skills, practical engineering experience, and passion for research would make me a valuable addition to your graduate program.

Thank you for your time and consideration. I look forward to hearing from you.

Sincerely,

Teo Yu Jie  
8332 4860  
[yujie@protonmail.com](mailto:yujie@protonmail.com)  
[linkedin.com/in/yujieteo/](https://linkedin.com/in/yujieteo/)  
<https://github.com/yujieteo?tab=repositories>