Scott T. Watson

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Professional Summary

Aerospace Engineering Master's graduate (MASc) with a strong foundation in propulsion, combustion, and structural analysis, complemented by hands-on experience in hybrid rocket engine development and FEA-based component optimization. Skilled in experimental design, data analysis, and performance evaluation of aerospace systems using tools such as Abaqus, ANSYS Fluent, and CATIA. Proven track record of delivering results through structural optimization projects and thermal modelling. Experience collaborating across multidisciplinary teams and communicating technical findings to both engineering and non-technical audiences.

Professional Experience

SpaceRyde, Propulsion Intern, *Vaughan, ON* Sep. 2022 – Dec. 2022
- Contributed to hybrid rocket propulsion design by participating in preliminary and critical design reviews.
- Optimized solid fuel-grain casting process, improving process efficiency by 20% and reducing engine reset time.
- Designed and built an in-house impact tester to quantify fuel grain toughness, enabling data-driven mixture selection.

Collins Aerospace, Structural Engineer, *Oakville, ON* Jan. 2022 – Apr. 2022
- Analytical assessment of stress and fatigue performance for military aircraft nose landing gear cross sections. Results verified against Abaqus FEA results on models generated in CATIA V5.
- Proposed the redesign of critical landing gear cross-sections based on analysis results, ensuring structural compliance.
- Delivered clear technical reports and presentations to military stakeholders.

York University, Research Assistant, *North York, ON* Sep. 2020 – Jul. 2021
- Thermal model of bridge cables under fire conditions; findings published in *Structural Engineering International*.
- Created an analytical heat transfer capable of matching experimental results within 5% accuracy. The suggested model is currently adopted by Arup engineers for systematic cable-stayed bridge design practices.
- Awarded *Best Plenary Oral Presentation* among 80 peers for communicating complex research to a general audience.

Arup Group, Fire Intern, *Toronto, ON* Jan. 2020 – Apr. 2020
- Simulated thermal behaviour of concrete slabs with embedded cable trays using LS-DYNA.
- Ensured Ontario code compliance for refurbishment projects through data-driven recommendations.
- Supported in client consultation projects, providing technical input to align with fire safety standards.

Multimatic, Quality Lab Technician, *East Gwillimbury, ON* May. 2019 – Aug. 2019
- Operated torque, elasticity, and fatigue tests on suspension ball joints, certifying parts and identifying failure modes.
- Analyzed returned warranty parts using precision measurement tools, documenting root causes for failure.
- Strengthened knowledge of material testing protocols and industry-standard analysis procedures.

Additional Experience

UW Orbital Satellite Design Team, ADCS Subsystem Co-Lead, *Waterloo, ON* May 2021 – Apr. 2023
- Pioneered the design of the Attitude Determination and Control (ADCS) subsystem for the team's inaugural CubeSat.
- Oversaw project timelines using Gantt charts and delegated tasks to subteam members accordingly.
- Interdisciplinary coordination to allow proper subsystem integration, guaranteeing power and space budget compliance.
- Submitted ADCS architecture presented as part of the team's submission to the Canadian Satellite Design Challenge in 2023, ultimately resulting in the team's first-place finish.

Education

Master's of Applied Science, GPA: 3.9/4.0 Oct. 2025
Major: *Aerospace Science and Engineering* *University of Toronto*
Bachelor's of Applied Science, GPA: 3.7/4.0 Apr. 2023
Major: *Mechanical Engineering, Honours with Distinction, Co-operative Program* *University of Waterloo*

Additional Information

Technical Skills: CATIA V5 | SolidWorks | Abaqus FEA | LS-DYNA | ANSYS Fluent | Matlab | Python | Microsoft Suite | Microsoft VBA | Geometric Dimensioning & Tolerancing | Rapid Prototyping | Lathe & Mill
Certifications: Certified SolidWorks Associate (CSWA) | Introduction to Engineering Simulations (Cornell)
Languages: English (native) | French (intermediate) | Mandarin Chinese (intermediate)
Hobbies: Sailing and snowboarding during relevant seasons. Avid aerospace follower.