Janet Liu

janet.liu@queensu.ca | +1 604-363-6812 | linkedin.com/in/liu-janet | https://janetttliu.github.io/

EDUCATION

Queen's University Kingston, ON
B.A.Sc in Mechatronics and Robotics Engineering 2024 - 2028
– Dean's Scholar
– Queen's Engineering Competition - Jr. Design, First Place

Canadian Flight Center Kamloops, BC
Private Pilot's License 2023
– Received through Air Cadets Power Pilot Scholarship

RELEVANT EXPERIENCE

Queen's Aerospace Design Team
Aerodynamics Manager Sep 2025 - Present
– Leading a student design sub-team of 11 members to design a fixed-wing drone for the AIAA 2026 competition.
– Designing aircraft with software including OpenVSP and Python optimization scripts.
– Verifying stability and performance using XFLR5/flow5 and CFD to optimize aerodynamic efficiency for mission goals
– Conducting aerodynamic analysis and performance correlation to validate design decisions.
– Teaching members about aircraft components and design software while ensuring efficient teamwork through documentation.

Queen's Aerospace Design Team
Research Member Oct 2024 - Sep 2025
– Finalist for AEAC Student Paper Competition and presented at the international IMAV conference
– Researched low Reynolds number airfoil aerodynamics with varying angle of attack and plasma actuation
– Created and validated CFD simulations within 12% of literature using OpenFOAM by coding in C/C++ and ensuring accurate boundary conditions
– Conducted mesh generation using Gmsh, ensuring suitable geometry, refinement and cell growth for accurate aerodynamic predictions
– Analyzed simulation data to identify opportunities for prediction improvements and key learnings
– Collaborated with faculty and graduate students for technical feedback and guidance

Mini Satellite Power Systems Engineering Design Project
Team Member Jan 2025 - Apr 2025
– Designed an Arduino-based power monitoring and active heating system for extreme environments
– Simulated circuits in LTspice, and produced CAD models and drawings in Fusion 360

PROFESSIONAL EXPERIENCE

Camp STEAM Canada Port Coquitlam, BC
Camp Counsellor July 2025 - Aug 2025
– Taught children from ages 5 - 13 about STEAM concepts in a summer camp setting including robotics, coding, and CAD modelling lessons using Python and TinkerCAD.
– Resolved conflicts through proper communication with children, management, and parents.

SKILLS & INTERESTS

– **Aerodynamic Analysis:** OpenFOAM (CFD), OpenVSP, XFLR5/flow5, Paraview, Mesh Generation (Gmsh)
– **Programming:** Python (optimization scripts, data analysis), C/C++ (OpenFOAM customization), Arduino
– **Command Line Interface:** Docker, OpenFOAM command-line operations
– **Design Software:** SolidWorks, Fusion360, OnShape, LTspice, KiCAD
– **General:** PowerPoint, Excel, Word, Project, Notion
– **Languages**: English (fluent), French (proficient), Mandarin (proficient)
– **Certifications:** Restricted Radio Operator Certificate - Aeronautical, Basic Drone License, Standard First Aid & CPR-C
– **Interests:** Design, Aerodynamics, Aerospace, Aviation, Research and Development, Sustainability