

THOMAS HUNG

Engineering Physics (Materials) | Experimental Materials Research | Mechanical Design & Manufacturing
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EDUCATION

Queen's University

BASc, Engineering Physics (Materials Stream), GPA: 3.98/4.30

Kingston, ON

2024 – Expected May 2028

École Secondaire Jules-Verne

Diplôme Francophone Dual Dogwood

Vancouver, BC

2019 – 2024

RESEARCH & ENGINEERING EXPERIENCE

Undergraduate Researcher, NSERC USRA

Department of Mechanical and Materials Engineering, Queen's University

Summer 2026

Kingston, ON

Supervisor: Prof. Brad Diak

- Operated an X-ray diffractometer independently to collect pole-figure measurements for crystallographic texture analysis of FCC metals using orientation distribution functions (ODFs)
- Analyzed crystallographic orientation data to characterize recrystallization and texture evolution, investigating how stacking fault energy may govern deformation texture in a metal (ytterbium) with limited published data
- Diagnosed and resolved equipment and experimental faults to sustain data quality
- Synthesized primary literature on ytterbium and wire deformation texture to inform and interpret experimental measured data

Co-Founder

aQuaFoil Design Team, SuMoth Challenge 2027: <https://www.aquafoil.ca/>

2025 – Present

Kingston, ON

- Co-founded a student design team building a foiling International Moth Sailboat for the SuMoth Challenge
- Leading early-stage hull and hydrofoil concept design in Rhino 3D against the competition's sustainability and cost-of-build requirements
- Defined technical scope, subteam structure, recruitment, budget and fundraising

Mechanical Team Director

Queen's aQuatonomous Design Team: <https://aquatonomous.vercel.app/>

2024 – 2026

Kingston, ON

- Led the mechanical team through design, fabrication, and testing of an autonomous surface vehicle for the RoboBoat competition
- Engineered and fabricated fiberglass composite hulls over FDM-printed components, balancing mass, stability and buoyancy
- Managed budget, build schedule, and cross-subteam coordination
- 3rd place finish for the competition autonomy challenge

SELECTED TECHNICAL PROJECTS

Robotic Arm End-Effector | Design Project with the Canadian Space Agency

Winter 2025

- Designed a robotic arm end-effector prototype in SolidWorks against requirements defined with the Canadian Space Agency
- Ran finite element analysis to iterate part geometry and optimize a TPU FDM-printed design for strength, compliance, and printability

Windsurf Foil Angle-of-Attack Gauge | Founder, Designer, and Manufacturer

2023 – 2025

- Designed and prototyped an FDM-printed gauge measuring wing angle of attack for Olympic-class (iQFOiL) windsurf foils
- Reverse-engineered production foil hardware, converting 3D-scan point-cloud data into manufacturable CAD geometry with repeatable fit across equipment variants
- Manufactured and sold units to competitive athletes at international events, refining the design from in-field feedback

TECHNICAL SKILLS

CAD & Simulation: SolidWorks, Fusion 360, Rhino 3D, finite element analysis (Calculix), CFD (OpenFOAM)

Experimental & Materials: X-ray diffraction (XRD), crystallographic texture analysis, metallography, X-ray lab safety and SOPs

Manufacturing & Prototyping: FDM 3D printing, fiberglass composite layup, 3D scanning, soldering, design for manufacturing

Programming & Electronics: Python, C/C++, Arduino, Fortran

Professional: Technical literature review, budget and schedule management, team leadership, English/French bilingual

WORK EXPERIENCE & LEADERSHIP

Logistics Coordinator

Canadian Student Semiconductor Conference: <https://www.cssic.ca/>

2026 – Present

Kingston, ON

- Organizing a student-led conference to address the talent gap in the Canadian semiconductor industry
- Planned the panels and conference timeline for the first edition in 2027

EngSoc Deputy of Design

Queen's Engineering Society (Design Bay Space)

2026 – Present

Kingston, ON

- Managing a student-led space for engineering students at Queen's to build engineering competition projects and teams
- Leading safety and organization of the space alongside development workshops for incoming students

Sailing Instructor

Royal Vancouver Yacht Club

Summers 2023 – 2025

Vancouver, BC

Certifications: CanSail 1 & 2 Instructor Trained; Standard First Aid & CPR

- Coached youth dinghy programs across three consecutive summer seasons, designing structured lesson progressions for junior sailors
- Maintained and repaired the club infrastructure, including fiberglass hull repair, rigging, and motorboat maintenance

Orientation Leader, Queen's Engineering Society (Fall 2025): led orientation for a cohort of 25 incoming engineering students

Team Canada, Youth Sailing World Championships (2023, 2024): iQFOiL windsurfing national youth team competitor (Brazil, Italy)

FIS Alpine Ski Racing, Vancouver Ski Team (2021 – 2024): top five national U18 ranking; NORAM Finals, Downhill and Super-G