CALEB KUANG

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EDUCATION

Bachelor of Engineering in Mechanical Engineering (BEng) Sept. 2023 - Present
University of Victoria, Victoria BC **|3rd year** Anticipated graduation in Aug. 2028

SKILLS

- **Software**: SolidWorks, AutoCAD, Onshape, C, Micropython, MS Office
- **Hardware**: Metal Fabricatoin, Raspberry Pi, Soldering, Breadboard, Woodworking, Manual Lathe, Drill Press, CNC Operation
- **Metrology**: Vernier Calipers, Micrometers, Oscilloscope, Multimeters
- **Languages**: English, Mandarin Chinese, Hokkien dialect
- **Interests:** Basketball, Drumming, Cooking, Weightlifting

PROFESSIONAL EXPERIENCE

UVic Mechanical Engineering Makerspace Assistant Jan. 2026 – Apr. 2026

- Managed 3D printing workflows, from file intake and slicing to final product delivery to makers
- Maintained 3D printers through routine servicing, filament replacement, and technical troubleshooting
- Monitored makerspace activities to ensure adherence to safety standards, equipment procedures, and code of conduct
- Facilitated daily operations by managing POS transactions, maintaining precise inventory records, and organizing the space
- Provided technical guidance to users regarding print feasibility, file optimization, and material selection

Student Fundraiser – UVic Annual Giving Program | Part time job Jan. 2026 – Present

- Fundraising & Outreach: Executed high-volume outbound calls to alumni to secure donations for student awards and university research priorities.
- Professional Negotiation: Employed respectful negotiation techniques to meet fundraising targets and handle objections professionally.
- Data Integrity: Managed sensitive alumni information, updating contact databases to ensure accurate university records.

Methods Engineering Intern – Digitization January 2025 – May 2025
De Havilland Aircraft of Canada Ltd., Victoria, BC Work Term #1

1. Digitization & Modernization of Manufacturing Data
   - Digitized legacy engineering drawings for DHC-515 Waterbomber, Twin Otter, Dash-8, and Beaver aircraft to support active production needs.
   - Created and revised 150+ 2D/3D CAD models using historical data, mylars, and physical parts.
   - Performed 10+ 2D data quality inspections (IV checks) per day.
   - Maintained organized, traceable digital records to align with quality standards and improve cross-team data access.
2. Engineering Support & ECNs
   - Resolved documentation discrepancies by comparing parts, tools, and drawings.
   - Reverse-engineered missing or distorted geometry using physical measurements.
   - Raised Engineering Change Notices (ECNs) for drawing corrections, digital updates, and process improvements.
3. Technical Tools & Training
   - Trained on CAD tools, Bending Calculator, and Lightening Hole Calculator.
   - Completed WHMIS training and team-specific training for digitization and documentation accuracy.

- Increase productivity by implementing 5S methodologies

4. Impact
   - Processed an average of 5–8 drawings per day, with an overall accuracy rate ≥90%.
   - Contributed to reducing drawing rework time and improving engineering data readiness for the production floor.

Design Engineer Assistant July 2023 – September 2023

Okina Automation Co., Taichung, Taiwan

- Operated CNC machine to drill precision components
- Assembled gripper parts used for industrial robot pick and place applications, the series include 2 Finger, 3 Finger, 4 Finger Air gripper parallel type
- Performed pneumatic testing and air leak tests on products
- Managed client communications, ensuring timely responses to inquiries and efficiently processing orders upon request
- Prepared and packaged 10+ products per day for delivery, ensuring secure handling and compliance with shipping standards
- Contributed to the development of assembly manuals and instructions

PROJECTS

FEM Mini Project | Class Project, UVic Dec. 2025

- Used FEM-based numerical approach to analyze 2D plates with a hole under tension with MATLAB

University of Victoria Engineering Competition - Senior Design Oct. 2025

Space debris collector

- Designed and built an autonomous VEX robot capable of collecting and removing simulated space debris
- Integrated mechanical design and strategy for efficient debris collection and disposal
- Presented the design concept and technical reasoning to judges

Rotor Assembly Reverse Engineering | Class project, UVic Mechanical Engineering Oct. 2024

- Reverse-engineering & Metrology: measured all rotor assembly components using precision metrology tools
- 3D Modeling & Assembly: Created accurate individual 3D CAD models for each part based on physical measurements, then developed the complete assembly accordingly
- Engineering Drafting: Generated a full technical documentation package, including an assembly drawing, bill of materials (BOM), and detailed part drawings utilizing the Ordinate Dimensioning style for clear manufacturing communication

University of Victoria Engineering Competition - Junior Design (1stplace) July 2024

Cornhole style game beanbag launcher

- Cooperated with 3 teammates to build a beanbag trebuchet within 5 hours using limited materials given
- Presented design process and justification to judges

Prototype designs for smart city | Class project, UVic Engineering April 2024

Automated smart parking system with integrated circuit board and sensor modules

- Programmed Raspberry Pi using MicroPython for wireless communication between UI and Pico board, and integrated sensors into the system
- Designed a real-time monitoring UI in HTML
- Wired and tested circuits on breadboard utilizing IR resistors, LED, phototransistors, and temperature sensors

PROFESSIONAL DEVELOPMENT

- Radio Operator Certificate-Aeronautical (ROC-A), Class 5 BC Driver's License
- Member of UVic Rocketry

REFERENCES

Kumanan Kathamuthu
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