Blaine Tubungbanua

Victoria, BC | blainetub@gmail.com
blainetub.com | linkedin.com/in/blainetub

SUMMARY

Mechanical engineer (B.Eng, 2025) with experience in production, electromechanical design, hands on prototyping, instrumentation, and test plans & procedures. Delivered a fully automated sanding machine from concept to delivery, led hybrid engine instrumentation implementation, and prepared engine test procedures.

EDUCATION

Bachelor of Engineering, Mechanical | University of Victoria *Graduation: June 2025*
GPA: 7.1/9.0 (Equivalent to 3.7/4.0)

SKILLS

Software: SolidWorks, AutoCAD, CATIA, LabVIEW , KiCAD, Arduino, MATLAB, Python, C, C++, MS Office
Fabrication: 3D Printer, Laser Cutter, Soldering, Design for Milling/Turning, Hand tools,

PROJECTS

Automated Electromechanical Sanding Machine (See Portfolio) *Jan 2024 – Sep 2024*
Electrical Lead, and Mechanical Designer

- Designed, tested and manufactured an automated sanding machine, integrating an AC motor, brushless motor, limit switches, and Arduino to accelerate the powder coat process of a local machine shop
- Drafted detailed subassemblies in Solidworks, designing machined, turned, laser cut, and 3D printed components, specified fasteners, and springs, generated shop drawings and BOMs
- Designed electrical system, drafted electrical schematics and designed PCB with KiCAD, defined power and IO for 120VAC, 24VDC, 5VDC systems, soldered compatible components, wrote embedded code in Arduino

Instrumentation System, UVic Rocketry Team (See Portfolio) *Sep 2022 – Jun 2023*
Subsystem Lead, Hybrid Engine Project

- Designed and implemented the instrumentation system for the Rocketry Team's hybrid engine test stand, integrating sensors to ensure safe monitoring of safety-critical procedures involving compressed gases
- Wrote system requirements and wiring diagrams, calibrated sensors, soldered and crimped connections, wrote LabVIEW code, for data acquisition system, enabling the system's first successful hot fire test
- Authored testing procedures and safe-work procedures, creating hazard matrices, and received training in compressed gas, WHIMIS, and fire extinguisher use to ensure compliance with OHSE

EXPERIENCE

De Havilland Aircraft of Canada Limited | Victoria, Canada *Sep 2024 – Dec 2024*
Methods Engineering Intern

- Created manufacturing data for 100+ aircraft parts using Solidworks and AutoCAD, for CL-515, Twin Otter, and Dash-8 aircraft, interpreting engineering drawings, part lists, and engineering orders
- Collaborated with methods engineering technicians, and fabricators to support engineering change notices and resolve non-conformance issues on the floor
- Resolved ambiguities in legacy drawings, manually re-calculating sheet metal flanges and joggles, cross-referencing dimensions across assemblies and existing tooling such as form blocks, and router templates

Airbus Helicopters GmbH | Donauwörth, Germany *Jan 2023 – Apr 2023*
Mechanical Engineering Intern

- Designed a new helicopter snow skids system, using hand calculations to parametrize the design to meet loading requirements, modelled in CATIA V5, achieved weight savings of 50%
- Investigated failure scenario with wire strike protection system. Implemented a modification in CATIA V5, eliminating a serious failure case
- Prepared system specifications for a wire strike protection system on a new helicopter, ensuring compliance with CS-27 and FAR-27

Atimi Software | Vancouver, Canada *Jan 2021 – Aug 2021*
Quality Assurance Engineering Co-op

- Developed test procedures and documented test results to validate software against design requirements, ensuring product quality and consistency
- Identified risks, potential failure and edge cases, designing targeted tests to thoroughly validate the system and ensure reliability under worst-case scenarios