Blaine Tubungbanua

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SUMMARY

Recent mechanical engineering grad (B.Eng, 2025) with experience in production, mechanical design, test planning and engineering project leadership. Proven experience with prototyping, system integration, instrumentation, and creating test plans/procedures across industry and engineering club projects, combining strong technical fundamentals with practical build experience and a detail oriented approach.

EDUCATION

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

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 manufacturing 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

UVic Capstone Design Project | Victoria, BC (See Portfolio) *Jan 2024 – Sep 2024*
Electrical Lead, and Mechanical Designer

- JSF Coatings required a machine to clean powder coat overspray from their tooling to streamline production
- 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
- 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
- Drafted detailed subassemblies in SolidWorks, designing machined, turned, laser cut, and 3D printed components. Specified fasteners, and springs, generated shop drawings and BOMs

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%
- Eliminated a failure scenario with wire strike protection system by conducting an investigation, conferring with aerostructure and reliability departments, and implementing a modification in CATIA V5
- Prepared system specifications for a wire strike protection system on a new helicopter, ensuring compliance with CS-27 and FAR-27 airworthiness regulations.
- Defined space allocations and interfaces for outboard equipment on curved aerostructure surfaces using CATIA V5

– Blaine Tubungbanua –

UVic Rocketry Team | Victoria, BC (See Portfolio) *Sep 2022 – Jun 2023*
Instrumentation Project Owner, 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
- Enabled the system's first successful hot fire test by writing system requirements and wiring diagrams, calibrating sensors, soldering and crimping connections, and writing LabVIEW code for data acquisition system
- Ensured compliance with OHSE by authoring testing procedures and safe-work procedures, creating hazard matrices, and receiving training in compressed gas, WHIMIS, and fire extinguisher use.

University of Victoria | Victoria, BC *Aug 2021 – Jun 2022*
Research Assistant, Faculty of Nursing, Technical Support Advisor

- Strengthened the local seniors community through making community events more accessible by developing websites for geriatrics programs, gathering requirements and customizing with CSS
- Set up IoT devices for participants living with chronic illnesses to study how technology can improve circumstances, discussing UI changes with developers. Improving technology accessibility for seniors

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

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

TECHNICAL COMPETENCIES

Computer Aided Design:	SolidWorks, CATIA V5, Siemens NX, MasterCAM, KiCAD
Prototyping:	3D Printing, Laser cut manufacturing, CNC Programming,
Programming:	C, C++, Python, Java, MATLAB, LabVIEW
Analysis:	NX Thermal/Flow, Ansys

COURSEWORK

Computer Aided Manufacturing:	Analysis of cutting dynamics and chatter reduction. Designed CNC tool paths in MasterCAM, verified toolpath with Vericut.
Computer Aided Engineering:	Advanced modelling and simulation tools with Siemens's NX and ANSYS. FEA and CFD simulations, sensitivity analysis and optimization
Mechatronics:	Programmed high speed firmware in bare metal C, manually manipulating bit registers to configure PWM, ADC, timers and interrupts
Naval Architecture:	Conducted iterative design process to design a marine vessel, applying ship design principles to ensure hydrodynamic stability

CERTIFICATIONS & AWARDS

Compressed Gas Safe Handling & WHIMIS, UVic	2023	Berklee City Music Scholarship	2017
UVic Entrance Scholarship	2019	Royal Conservatory of Music Piano 8	2017

INTERESTS

Sport climbing, bouldering, cycling, running, skiing
Playing piano, bass, drums, guitar in rock/pop, gospel, jazz, and funk styles

References Available Upon Request