Blaine Tubungbanua

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EDUCATION

Bachelor of Engineering, Mechanical | *University of Victoria, GPA: 7.1/9.0 (3.7/4.0)* | Graduation: Dec 2024

EXPERIENCE

DeHavilland Aircraft of Canada Limited | Methods Engineering Intern — Sep 2024 – Dec 2024

Victoria, BC, Canada

- Created manufacturing data for aircraft parts using Solidworks and Autocad, for Canadair, Twin Otter, and Dash-8 aircraft, interpreting engineering drawings, part lists, and engineering orders.
- Resolved ambiguities in 60+ year old drawings, re-calculating sheet metal flanges and joggles, cross-referencing dimensions across assemblies and existing tooling such as form blocks, and router templates.
- Collaborated with methods engineering technicians, and fabricators to support engineering change notices and resolve non-conformance issues on the floor.

Airbus Helicopters | Mechanical Engineering Intern — Jan 2023 – Apr 2023

Donauwörth, Germany

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

University of Victoria | Research Assistant, Nursing: Web Developer & Tech Support — Aug 2021 – Jun 2022

Victoria, BC, Canada

- Developed and managed websites for geriatrics programs, making local seniors' events more accessible.
- Set up devices for participants with chronic illnesses to study technology's impact on their lives.

Atimi Software | Quality Assurance Engineering Co-op — Jan 2021 – Aug 2021

Vancouver, BC, Canada

- Defined and enforced acceptance criteria to ensure software packages adhered strictly to design specifications.
- Wrote test cases and defect reports, communicating with developers to respectfully discuss failed acceptance criteria.

PROJECTS

Custom Sanding Machine Prototype — Jan 2024 – Apr 2024

Mechanical Engineering Capstone Project

- Collaborated with JSF.Coatings, a local business, to design and manufacture a sanding machine prototype integrating an AC motor, brushless motor, and arduino to accelerate their powder coat process.
- Conducted loading, stress and fatigue calculations, ensuring reliability of rotary equipment at 1300 rpm.
- Drafted detailed subassemblies in Solidworks, specified fasteners, and springs, generated BOM.
- Designed electrical system, drafted electrical schematics and designed PCB and with KiCAD, defined power and IO requirements, selected and soldered compatible components, wrote code in Arduino.
- Troubleshooted mechatronics system, systematically isolating bugs, achieving a robust reliable system.

UVic Rocketry Team, Hybrid Engine Test Stand — Sep 2022 – Jun 2023

Instrumentation Lead, Propulsion Subsystem

- 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, enabling the system's first successful hot fire test.
- Authored OHSE-compliant safe-work procedures, creating hazard matrices, and received training in compressed gas, WHIMIS, and fire extinguisher use.

SKILLS

- **Design:** SolidWorks, CATIA V5, AutoCAD, KiCAD, Mastercam, Laser cutter, 3D Printer, Soldering
- **Analysis:** NX Thermal/Flow, Ansys Mechanical/Fluent

CERTIFICATIONS & AWARDS

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