Wyatt Shore

Langley, BC | 778-846-1408 | wyattshore@uvic.ca | Portfolio: wyattshore.ca

EXPERIENCE

3DM DEVICES **Aldergrove, BC**
Mechanical Design & Test Engineer May 2024 – Sept 2024, May 2025 – Dec 2025

- Streamlined pneumatic actuator assembly for industrial tire scanning by resizing cylinders and modifying mechanical linkages, reducing pressure regulator requirements from 4 to 1.
- Independently prototyped a handheld laser scanner by interfacing a linear CCD with an Arduino; verified nanosecond-level timing signals via oscilloscope and integrated battery power, a display, and a custom tactile trigger into a 3D-printed enclosure with custom-soldered circuitry.
- Performed first-principles analysis on tire-handling systems to determine required torques, actuator forces, and to ensure linkages avoid excessive deflection/stress under operational loads.
- Mitigated optical drift by performing thermal expansion calculations to ensure ±5 micron-level stability for high-precision mounts across a 40°C operating range.
- Executed the mechanical redesign of the flagship scanner lid from cast iron to aluminum to significantly improve heat dissipation for high-output internal components.
- Developed and built a high-precision test fixture to verify sensor accuracy, reducing cycle time for production QC.
- Documented a standard operating procedure for scanner calibration, creating a standardized framework that ensured repeatable micron-level accuracy for the production team.
- Automated data analysis with Excel to pull network data and generate formatted technical reports for Quality Control..

EDUCATION

UNIVERSITY OF VICTORIA **Victoria, BC**
Mechanical Engineering Undergraduate | GPA: 8.79 / 9.0 Sept 2024 – Present

UNIVERSITY OF THE FRASER VALLEY **Abbotsford, BC**
Engineering Transfer Program | GPA: 4.1 / 4.33 Sept 2022 – April 2024

- **Notable Awards:** UVic President's Scholarship, Clara Evelyn Wilson Scholarship, UFV Dean's List (3x).

PROJECTS

ROTARY INVERTED PENDULUM Jan 2026 – Present
Personal Robotics Project

- Designing a 3D-printed control systems testbed to implement PID/XQR control for balancing a custom pendulum.
- Plans to develop system models in MATLAB and Simulink to simulate stability and optimize motor torque response.

UVIC FORMULA HYBRID Jan 2025 – April 2025
Powertrain Team Member

- Developed an electronic throttle actuator using a stepper motor and rotary encoder; created a Python script to log real-time motion data to MATLAB for dynamic performance validation. Investigated root cause of steady-state error.

SMART BIRDFEEDER Aug 2025 – Dec 2025
Personal IoT Project

- Designed and built a solar-powered IoT monitoring system using a Raspberry Pi and camera; developed a custom desktop application to interface with the device and manage automated Python-based image triggers and streaming.

TECHNICAL SKILLS

- **Design:** SolidWorks, AutoCAD, DFM, Sheet Metal.
- **Analysis & Software:** MATLAB, Simulink (In-Progress), Python, C++, Excel.
- **Fabrication & Wiring:** Manual Milling, Lathe, 3D Printing, Tapping, Press-fitting, wiring & electronics prototyping
- **Testing:** CMM, Oscilloscopes, Micron-level Laser Calibration, Multimeters.

ADDITIONAL EXPERIENCE

- **Kore Irrigation:** Installation and maintenance of residential/commercial irrigation systems (2020 – 2023).
- **High-Level Athletics:** Competitive Ice Hockey; developed discipline and team communication skills.