# Matthew Watson

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## EDUCATION

**Dalhousie University** <span style="float:right">Halifax, NS</span>

*Bachelor of Electrical & Computer Engineering - Dean's List - CGPA: 3.88/4.3* <span style="float:right">*Sep 2021 – Dec 2026*</span>

## EXPERIENCE

**Pilot Engineering Intern - Software Product Management ↗** <span style="float:right">Sep. 2025 – Present</span>

*Tesla* <span style="float:right">*Austin, TX*</span>

- Led the 0→1 development of a global workforce scheduling platform, defining the product vision and roadmap for a director-level initiative (business case estimates a $55M/year opportunity on the Giga Texas Model Y line alone).
- Developed an optimization-based scheduling MVP (Python, Java, and SQL), drove multi-site stakeholder alignment across Austin, Fremont, and Berlin, and transitioned the project to an engineering team for production build.
- Directed the technical product lifecycle, aligning Engineering, Operations, and Finance teams on requirements, leading weekly stakeholder reviews, and driving multi-line implementation across global factories.
- Shipped an internal engineering design simulation product for 20+ Model Y/Cybertruck engineers that visualizes line designs and detects timing issues, standardizing design validation and accelerating iteration across teams.

**Systems Engineering Intern ↗** <span style="float:right">May 2025 – Aug 2025</span>

*Lockheed Martin* <span style="float:right">*Halifax, NS*</span>

- Led technical alignment for the Sonar & Navigation suite, distilling conflicting stakeholder needs (BAE, Royal Canadian Navy) into quantifiable requirements to de-risk the Critical Design Review program milestone.
- Defined system-level constraints for the River-Class Destroyer by mapping ANEP-77 standards to hardware/software specifications, ensuring full requirements traceability across stakeholders (ISI, CSC, BAE).
- Engineered an automated data ingestion tool for IBM DOORS using Python (Pandas), SQL, and VBA, saving 4,450 work hours ($380,000) annually by eliminating manual processing and ensuring strict requirement traceability.

**Electrical Engineering Intern ↗** <span style="float:right">Jan 2024 – Dec 2024</span>

*Lockheed Martin* <span style="float:right">*Halifax, NS*</span>

- Engineered an automated data validation system (Python, Pandas) to detect critical integrity failures in engineering datasets, preventing downstream integration errors and saving $129,000 annually.
- Built a real-time project dashboard by engineering a Python pipeline between Jira and Tableau, providing stakeholders with actionable visibility into program engineering deliverables and bottlenecks.

**Data Engineering Intern ↗** <span style="float:right">May 2023 – Aug 2023</span>

*J.D. Irving, Ltd. – Transportation & Logistics Division* <span style="float:right">*Saint John, NB*</span>

- Partnered with shop managers to identify critical workflow bottlenecks, developing a mobile Power BI solution (backed by SQL) that recovered $120K in lost revenue through optimized scheduling and real-time analytics.

## PROJECTS & EXTRACURRICULAR LEADERSHIP

**Embedded Control System for Cardiac Arrhythmia Imaging ↗ | *Quinn Laboratory*** <span style="float:right">Jan 2024 – Present</span>

- Led the development of an embedded imaging control system for the Cardiac Autoregulation & Arrhythmias Research Laboratory at Dalhousie University to enable high-precision fluorescence-based imaging of cardiac tissue.
- Designed hardware-software interfaces using an ATMega328P (C++) to synchronize high-speed imaging with analog circuits (PWM/GPIO), developing bare-metal drivers to enforce strict microsecond-level timing constraints.

**Dalhousie University Robotics Competition ↗ | *1st Place, Electrical & Computer Engineering*** <span style="float:right">Aug 2024</span>

- Designed and integrated the autonomous navigation system (ROS2, C++), defining hardware-software interfaces for real-time sensor fusion (LiDAR/IMU) to validate system design assumptions and secure 1st Place.

**Pipelined CPU Emulator ↗ | *Independent Project*** <span style="float:right">May 2024 – Aug 2024</span>

- Engineered a high-performance emulator in C for a custom RISC architecture, accurately simulating a 4-stage CPU pipeline with support for interrupts, caching, memory management, and advanced debugging tools.

## TECHNICAL SKILLS

**Product Strategy**: PRDs, Stakeholder Mgmt, Roadmap Planning, KPIs, Agile, UAT, Six Sigma White Belt
**Tools & Data**: Jira, Confluence, Tableau, Power BI, SQL, Git, Airflow, IBM DOORS, Excel (VBA)
**Firmware**: Embedded Systems (STM32), Sensor Fusion (LiDAR/IMU), UART/I2C/SPI, Hardware Validation
**Languages & Frameworks**: Python (Pandas, NumPy), C/C++, MATLAB, Assembly, Javascript, Flask, Django