(204) 291-8182
Winnipeg, MB, Canada
brendan.james.doherty@gmail.com

Brendan Doherty

Embedded Firmware Developer

brendandoherty.com
github.com/brendan-doherty
linkedin.com/in/brendanjamesdoherty

Adaptable and dependable computer engineering student at the University of Manitoba motivated by a desire to learn. Detail-oriented and capable of quickly grasping complex topics, resulting in excellent problem-solving skills. Delivers results both individually and with a team. Strong communication skills in both technical and non-technical fields. Relevant experience with firmware development, implementation, and debugging with a special focus on real-time operating and control systems integration. Seeking to apply skills to cutting-edge technology, as well as further growth as a computer engineer.

EDUCATION

Bachelor of Science in Computer Engineering, *University of Manitoba*	Expected Graduation — June 2024
Minor of Science in Computer Science, *University of Manitoba*	Expected Graduation — June 2024
Venture for Canada Internship, *Virtual*	July 2020
Canadian Amateur Radio Licence - Basic with Honors, *Government of Canada*	May 2020

TECHNICAL EXPERIENCE

Software Systems Officer — **September 2021 — Present**
University of Manitoba Society of Automotive Engineers — *Winnipeg, MB, CA*
- Responsible for the safety, quality, and efficiency of the software system.
- Responsible for a team of 11 software system members.
- Integrated 3-phase motor control and distributed battery management systems.
- Operated on high voltage systems (>350VDC).

Embedded Firmware Developer — **July 2020 — Present**
Taiv — *Winnipeg, MB, CA*
- Leading embedded development for and product testing and releases.
- Designed and implemented communication protocols between multiple embedded platforms.
- Designed hardware/software watchdog systems with 100% hard-fault detection and correction success rate.
- Fast-paced and self-guided environment where creative solutions are key for rapid success.

Flight Software Lead - ManitobaSat-1 IRIS Mission — **June 2022 — September 2022**
STARLab — *Winnipeg, MB, CA*
- Lead flight software developer for a Nanosat satellite.
- Emphasis on safe and efficient software designed to run uninterrupted for the life of the mission.
- Implemented inter-module communication protocols, such as I2C, SPI, and CAN.

Software Team Member — **September 2019 — September 2021**
University of Manitoba Society of Automotive Engineers — *Winnipeg, MB, CA*
- Designed and implemented multiple systems for an electric racing vehicle.
- Developed and integrated firmware for SD-card data logging and data analysis programs in MATLAB.
- Optimized embedded operating system performance for handling real-time communications and control.

Communications System Developer — **September 2019 — June 2021**
University of Manitoba Space Applications and Technology Society — *Winnipeg, MB, CA*
- Designed an interface for wireless communication with a micro-satellite.
- Adapted the AX.25 communication standard to transmit images and system status.
- Developed and implemented error detection/correction.

SKILLS

Languages	C, C++, Python, Java, Git
Quantitative Work	Data analysis and variance compensation for a *Crokinole* playing robot, Delivering a functional and competitive electric racing vehicle, Optimization of motor controller parameters through data analysis and simulation, Motor resolver calibration and verification
Tools and Skills	Embedded Debugging, Hardware-Level Debugging, Strict Versioning Practices

ACTIVITIES

Technical Steward	2022
UMIEEE Technical Activities Director	2021-2022
UMES Conference Delegation Committee Member	2021-2022
UMSATS Executive Documentation Manager	2020-2021
Special Olympics Canada Coach	2015 - 2018