

BRYAN MELANSON

EMBEDDED DEVELOPER

ABOUT

B.Eng in Computer Engineering from Memorial University of Newfoundland with a strong background in embedded development. Practical experience in safety-critical firmware development including Mission Control design of Killick-1 GNSS CubeSat, Pulsed Field Ablation devices for treatment of atrial fibrillation as well as the Mysa Smart Baseboard Thermostat, Smart Infloor Thermostat and Smart Air Conditioner. Skills include RTOS, NFC, C/C++, GDB, Assembly, React, Rust, Python and Bluetooth.

WORK EXPERIENCE

Boston Scientific

<https://bostonscientific.com>
November 2023 – Present

Embedded Developer

Boston Scientific is dedicated to transforming lives through innovative medical solutions that improve the health of patients around the world.

Highlights

- Designing, developing and testing firmware for Class IV medical devices.
- Developing a bootloader system for managing MCU and FPGA updates across multiple devices with cryptographic verification.
- Developing and executing verification & validation test plans—including software unit tests—to ensure medical-device compliance and functional safety.
- Designing and prototyping embedded hardware featuring CAN, USB, and SPI interfaces for sensor data acquisition and device control
- Implemented testing initiatives for the software development lifecycle, employing Jenkins as the primary automation server and integrated automated test suites into the Jenkins continuous integration (CI) pipeline.

Mysa

<https://getmysa.com>
January 2019 – July 2023

Software Developer

Mysa is the first ever high-voltage thermostat that is truly smart. It is fully featured for the conscientious consumer: smart learning features which amount to approximately 15% savings on energy bills, remote access to control their home's heating through their smartphone from anywhere in the world, and integration with popular smart home platforms (Amazon Alexa, Google Home, and Apple Homekit)

Highlights

- Designing, developing, coding, testing and debugging firmware for embedded devices and systems from requirements to production and commercial deployment.
- Working with the hardware team to specify and develop new products from prototype through to production.
- Working with the software team to develop and document API and interface specifications for embedded devices.
- Working with the mobile team to design and developing applications for iOS and Android platforms using the React framework.

CONTACT



Montreal, Quebec CA



bryan.melanson@gmail.com



<https://bryanmelanson.com>



[linkedin](#)
[bryanmelanson](#)



[github](#)
[bryan-melanson](#)

EDUCATION

2015
2020

Memorial University of Newfoundland

<https://www.mun.ca>

Bachelor

Computer Engineering

Courses

- Real Time Operating Systems
- Embedded Systems
- Software Design
- Data Structures
- Image Processing
- Computer Security
- Microelectronics

SKILLS

Embedded Development

Intermediate

C	C++	FreeRTOS	I2C	SPI	CAN
UART	DMA	USB	ESP32		
ARM Cortex-M	Bootloader	JTAG			
Bluetooth	NFC	Make	CMake		
Jenkins	Oscilloscopes	Logic Analyzers			
Rust					

Front End Development

Beginner

React	Redux	Vue	Flipper	Android
-------	-------	-----	---------	---------

- ◀ Developing reusable components, implementing state management, and leveraging third-party libraries and APIs in designing responsive and adaptive user interfaces.
- ◀ Collaborating with cross-functional teams, including product managers, designers, and engineers, and leveraging embedded system experience to deliver high-quality mobile applications.
- ◀ Integrating and validating new product designs.

Nokia Inc.

🌐 <https://nokia.com>

July 2016 – December 2016

IP/TAC 2LS Support Engineer (Co-Op)

Remote Technical Support for 5620 SAM Network Services Platform and associated network elements. Debugging complex product installations on CentOS/Solaris/RHEL systems, resolving complicated network problems using Open Stack, Cloud Stack and VMWare. Scripting at a Unix/Linux level in bash and Python. Interfacing, developing and maintaining strong relationships with regional TEC (Technical Expertise Centers), Solution Teams and Product Business Units.

Nalcor Energy

🌐 <https://nalcorenergy.com/>

December 2015 – May 2016

Software Developer (Co-Op)

Nalcor Energy is a provincial energy corporation which is headquartered in St. John's, Newfoundland and Labrador. A provincial Crown corporation under the Government of Newfoundland and Labrador, Nalcor Energy was created in 2007 to manage the province's energy resources.

Highlights

- ◀ Developed GIS application development for analyzing prices and visualizing correlations within the New York energy market.
- ◀ Initiated migration of heat map functionality to web application using R and Google Maps.
- ◀ Scripted the mapping of all major North American energy markets.

♥ INTERESTS

Hobbies

Woodworking

Weightlifting

Baking

Gardening