

Education

2023–2026	Bachelor of Computer Science	Montréal, QC
	<ul style="list-style-type: none">• GPA: 4.02 out of 4.30.• All credits completed, graduating June 2026.• Concordia University, dean's list.	

Employment

Summer 2025	Software Development Intern, C-CORE	St. John's, NL
	<ul style="list-style-type: none">• Developed software for the MUNStar-1 Cube-Satellite.• Wrote and tested MISRA-compliant C firmware with FreeRTOS for the Zynq 7000 SoC's ARM Cortex A9 cores.• Implemented reliable communication protocol over CAN.• Modified C preprocessor to generate serialization code.• Wrote test framework code generator to produce PlantUML statechart from list of system tests.• Built redundant storage firmware module with integrity checking.• Unit-tested SIL simulation system, and extended it with mock filesystem.• Performed HIL testing in cleanroom.• Used GNU Radio to assist in revamping GFSK radio flowgraph.	

Projects

git.samanthony.xyz

Automotive gauge driver with CAN interface

- Electronic device that drives up to six analog gauges using CAN bus data.
- Designed hardware (PCB) with PIC microcontroller, MCP2515 CAN controller, EEPROM, and DACs.
- Used SPI for inter-chip communication.
- Wrote C firmware, Go calibration software, Python bit-timing script.

Volute

- Graphical turbocharger selection program.
- Thermodynamic model of internal combustion engine and compressor.
- Written in C using microui.

Skills

Programming in Ada, C, C++, Go, Java, Python.

Embedded systems design and programming with PIC, STM32, ESP32 microcontrollers; Zynq 7000 SoC; FreeRTOS; state machines.

Concurrent programming with threads, Open MPI, Go, Ada, FreeRTOS.

Parallel programming with OpenMP, TBB, OpenCL.

Networking — TCP/UDP/IP, 9P, CAN, RS-485, SPI, I²C.