

Education

- 2026 Concordia University Montréal, QC
- Bachelor of computer science
 - GPA: 4.02 of 4.30
 - Dean's list

Employment

- Summer 2025 Software Development Intern, C-CORE St. John's, NL
- 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 Go, C, C++, Java, Python, HTML, CSS.
- Embedded systems design and programming with PIC, STM32, ESP32 microcontrollers; Xilinx Zynq 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.