

## Education

June 2026      **Concordia University**      Montréal, QC

- Bachelor of Computer Science.
- GPA: 4.02 out of 4.30.
- Dean's list, 2024 & 2025.

## Employment

Summer 2025      **C-CORE, software developer intern**      St. John's, NL

- Developed software for the MUNStar-1 Cube-Satellite's MCS, ADCS, C&DH, and simulation systems.
- Wrote and tested MISRA-compliant C firmware with FreeRTOS for the Zynq 7000 SoC.
- Implemented reliable ADCS communication protocol over CAN. Modified C preprocessor to generate (de)serialization code for ADCS datastructures. Tested in cleanroom.
- Wrote test framework code generator to produce PlantUML statechart from list of system tests.
- Built redundant storage firmware module with integrity checking.
- Unit-tested simulation system, and extended it to include filesystem.
- Used GNU Radio to assist in revamping GFSK radio flowgraph.

## Projects

git.samanthony.xyz

### Automotive gauge driver with CAN interface

- Designed hardware (PCB) with PIC microcontroller, MCP2515 CAN controller, EEPROM, and DACs.
- SPI for inter-chip communication.
- 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, I<sup>2</sup>C.