Thomas Porter

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EDUCATION

Memorial University of Newfoundland **Fall 2022 – Spring 2027**
BS Computer Engineering *St. John's, NL*
- Dean's List 2023-2024

WORK EXPERIENCE

Solace Power **May 2025 – Aug. 2025**
Software Developer Intern *Mount Pearl, NL*
- Created HTTP, HTTPS, UART, and framing protocol drivers, contributing to existing ESP32 codebase.
- Ported embedded webserver communication protocol from JSON to Protobuf to improve memory efficiency.
- Researched and implemented PWM driver for EFM32 as part of initial development for embedded platform.
- Improved Python-based In-Circuit Testing platform to perform initial characterization of over 100 boards.

Nditive **Sept. 2024 – Dec. 2024**
Software Developer Intern *St. John's, NL*
- Created embedded C/C++ code for the ESP32 platform to enable wireless communication with IoT devices.
  - Leveraged FreeRTOS capabilities such as task scheduling to improve device power efficiency.
  - Utilized MQTT communication protocol to send real-time data to AWS backend.
- Implemented I2C communication for numerous peripheral sensors connected to ESP32 device.

Nasdaq Verafin **Jan. 2024 – Apr. 2024**
Software Developer Intern *St. John's, NL*
- Wrote logic and tests for handling several unique cases of customer data formatting using Java and XML.
- Communicated with financial institution representatives to onboard them onto financial crime detection system.
- Navigated Linux command line-based AWS infrastructure to incorporate data into SQL database.

PROJECTS

Game Boy Emulator **Jun. 2025 – Present**
- Re-created the instruction set of the Zilog Z80-based 1989 Nintendo Game Boy console with C++.
- Leveraged GLFW and GLEW graphics libraries to render console graphics with OpenGL.
- Utilized the Dear ImGUI C++ library to visualize memory and use debugging tools such as breakpoints.

Greenhouse Automation System **Jun. 2024 – Sept. 2024**
- Wrote C++ code for the Arduino platform to read sensor data and control various electrical components.
- Designed private webpage hosted on a Raspberry Pi to enable remote access to system and data visualization.
  - Utilized the Python Flask library to handle the backend of the server and interface with Arduino.
  - Created HTML and CSS to display information in an intuitive manner to the user.
  - Set SQLite database to act as the primary data storage and retrieval solution for the graphical interface.

SKILLS & INTERESTS

- **Programming Languages:** C/C++; Python; C#; JavaScript; HLSL; HTML and CSS; SQL; Visual Basic
- **Skills:** Embedded programming; low-level programming; real-time operating systems; build systems; software design and planning; data structures and algorithms; Git; sensor configuration; learning independently; robotics
- **Interests:** Cycling; game development; traveling; reading; strategy games; hiking; cooking; trivia; cider brewing

References available upon request