

Lawrence Matsuoka

1-902-401-0820 | LawrenceMatsuoka@gmail.com | github.com/lawrence-matsuoka

EDUCATION

Dalhousie University

Halifax, NS

Bachelor of Science in Mathematics, Minor in Business

Expected Fall 2025

- **Relevant Coursework:** Applied Graph Theory, Cryptography, Discrete Math, Linear Algebra, Number Theory

EXPERIENCE

Data Engineer Intern

May 2022 – Dec 2022

HyperSpark AI

Remote

- Configured Dockerfiles to containerize dependencies, development environments, and consistent deployment
- Assisted in maintaining Kubernetes YAML configuration files to automate deployments in a DevOps pipeline
- Collaborated cross-functionally with data scientists and the development team to design databases schemas

Data Analyst Intern

May 2021 – Apr 2022

DevScript Inc.

Halifax, NS

- Estimated a total addressable market of \$1.5B by modelling financial data from banks/government organizations, and extrapolating findings through data collection and analysis
- Applied linear regression in a Jupyter Notebook to fill gaps in market data and improve accuracy of market sizing
- Crafted a D3.js visualization in Observable to map the interconnectedness between lending institutions
- Mentored new interns in Agile workflows and project onboarding to improve team integration and productivity
- Engineered an automated financial model template with variable financial line items based on NAICS code
- Enhanced the completeness of market research by applying systems of linear equations and linear programming

Research Analyst Intern

Sep 2020 – Apr 2021

DevScript Inc.

Halifax, NS

- Mapped 20,000+ metrics and APIs in a relational database to design a data lake for machine learning applications
- Evaluated databases, tables, reports and economic factors from government resources to validate the market
- Authored a written report on business value by assembling and referencing 327 peer-reviewed articles
- Collaborated with management for new employee onboarding process and setting of organizational level OKRs

TECHNICAL SKILLS

Languages: C/C++, Python, JavaScript, Bash, Lua, R, Java, SQL, LaTeX, x86 Assembly

Software Tools: Linux, Git, STM32CubeIDE, Code Composer Studio, KiCad, Ultimaker Cura, OrcaSlicer, FreeCAD

Communication Protocols: I2C, SPI, UART

Hardware: STM32, MSP430, Raspberry Pi 3B+, ESP32, Multimeter, Oscilloscope, Logic Analyzer

PROJECTS

XtI: A Command-line Utility for Chemists | *C, Lua, Python, Bash, Makefile, Git*

- Developed a cross-platform command-line program in C to handle input arguments and execution flow that trigger file transformations via embedded Lua scripts using its C API
- Wrote unit and integration tests using the Check framework to verify core functions and sample inputs
- Created a Makefile that automates the build, compilation, and testing workflows to improve development speed
- Automated the generation of boilerplate unit test code and Makefile updates with a Python script
- Utilized a Bash script to automate installation and streamline shell integration on Linux and MacOS

Barbell Velocity Tracker | *C, MSP430, I2C, UART*

github.com/lawrence-matsuoka/barbell-tracker

- Built a prototype device that measures barbell velocity using an MSP430, MPU6050, and 16x2 LCD
- Implemented I2C sensor communication, parallel LCD output, and UART debugging with a logic analyzer

HexFML | *C++, SFML, Networking*

github.com/lawrence-matsuoka/hexfml

- Recreated the board game Hex from scratch using C++ and SFML to render an interactive 11x11 hexagonal grid
- Built P2P networking using TCP sockets to enable real-time online multiplayer functionality via port forwarding
- Designed and implemented game logic, move validation, turn sequencing, and win detection with a Depth-First Search (DFS) traversal algorithm
- Tested and debugged both local and online scenarios to optimize responsiveness and ensure consistent gameplay