Nathan DSilva

University of Waterloo - Computational Mathematics

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Summary

Highly motivated software developer with several years of professional experience and a proven ability to deliver high-quality, maintainable code. Enthusiastic about programming, with dozens of personal projects and a diverse range of interests. Seeking a challenging role to improve technical skills and contribute to innovative projects.

Programming Skills

The following is a non-exhaustive list. Ask me for details!

Frontend	Javascript, Typescript, WASM React, Vue, Laravel, Svelte SASS, TailwindCSS
Backend	Rust, C++, C Python, Node.js, C#, PHP PostgreSQL, MongoDB, MySQL Bash, Batch, Powershell
Tools	Git, Docker AWS, Terraform, CircleCI RegEx, Spreadsheets
Software	VSCode, Visual Studio, Vim Linux (RHEL, Ubuntu), Windows Unity, LaTeX, Photoshop

Education

University of Waterloo 2020 - 2025

Computational Mathematics + Combinatorics & Optimization (Co-op)

Quantum Cryptography School for Young Students Jul 2019

Studied theoretical physics & cryptography at the Lazaridis Quantum Nano Center and Perimeter Institute.

Interests

(Redacted)

Work Experience

Internal Tools Software Developer (16 Months) 2022 - 2023

Scrawlr Development Inc. Vancouver, BC

- Lead developer on 20+ projects, including a reactivity and state-management library for Vue.js, a cross-platform browser extension plugin for Vite, and various API specification & mocking utilities.
- Collaborated across 4 different teams to develop internal tools, infrastructure, and improve CI/CD pipelines.
- Worked with the infrastructure team to create a full deployment services using Terraform and AWS (EC2, ECS, ECR, IAM, VPC, Route53, etc.)
- Mentored two co-op students with variety of projects and technologies such as CircleCI, Vue.js, and Jest.

Network Administrator Co-op (4 Months) 2021

Questenterprise Inc. North York, ON

- Worked closely with the networking team migrating a datacenter and rerouting traffic with minimal disruption to active business.
- Developed and deployed a React interface to manage network documentation for current infrastructure and practices.

(Previous history redacted for privacy)

Personal Projects

MineNewt

Machine Learning Rust, Python, Neural Networks

Created a machine learning library from scratch in Rust, and researched novel encodings of neural networks with stochastic (probabilistic) bits. Developed a Python library for simulating performance of networks encoded this way, and embedding into a custom architecture.

Passbirb

Password Manager Vue, Vite, Cryptography

Researched and optimized a secure algorithm for statelessly generating passwords with Argon2. Developed a responsive and lightweight frontend UI with Vue.js and Vite.

WaterlooWorms

Web Scraper & UI Vue, Tailwind

Created a website to efficiently filter, search, shortlist, and view job descriptions scraped from the University of Waterloo's Job Board. Actively used by over 25 students to shortlist jobs significantly faster than the existing "WaterlooWorks" website.

Forgscript

Programming Language Rust, VSCode

Created an esoteric programming language that features non-linear code execution inspired by the Collatz Conjecture. Built with Rust and includes a VSCode extension that provides syntax highlighting and visualization tools to improve developer experience.

This résumé was created from scratch with TailwindCSS