

# Nigel Redding

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## SUMMARY

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I am a highly motivated software developer and mathematician with six years of professional experience. I have strong software and quantitative skills, and a strong desire to continue growth.

## WORK EXPERIENCE

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### Syntronic

March 2024 - August 2025

#### Software Developer

Technology consulting company specializing in embedded systems. Collaborated in an agile team to design, implement, and test production-grade software for aerospace and industrial clients.

Telesat (LEO satellite program):

- Developed a Python-based code generator to transform MBSE architecture models (Capella) into simulation code, enhancing model validation efficiency.
- Created C++ bindings and gRPC interfaces to integrate third-party libraries into satellite software frameworks.

**Key skills:** Python, gRPC, embedded development, C++, Docker, MBSE (Capella), CI/CD (gitlab CI)

### SociVolta

November 2020 - April 2023

#### Software Developer

SociVolta is a grid operator which participates in wholesale energy markets. It is focused on financial trading and renewable energy.

- Developed high-performance trading tools (backtesting and live execution) in Python (ply, numpy)
- Developed scalable software for multi-market participation, expanding from 2 ISOs to nearly all major North American markets, directly contributing to profitability and enabling sustainable growth,

**Key skills:** Python, ply (python lex/yacc), pandas, numpy, CI/CD (Jenkins), Automation (Airflow)

### Zeligsoft

January 2018 - November 2020

#### Software Developer

Zeligsoft is an embedded software consulting company.

- Developed tools and libraries for OpenSplice DDS, a real-time publish/subscribe middleware, using C, C++, Python, and Cython.

**Key skills:** Python, C, C++, CI/CD (Jenkins), DDS, CMake, Bash

## TECHNICAL SKILLS

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- Math: (General) Calculus, Linear Algebra, Statistics, (Specific) : Elliptic Curves, Applied Math
- Very strong python skills, as well as good experience with C and C++
- Software Packages: pandas, numpy, ETL (airflow), SQL, pytorch, pytorch3d, opencv
- Cloud Computing: AWS, CGP, Docker, Jenkins, Gitlab CI

## EDUCATION

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September 2010 - January 2015 BSc. Mathematics **Carleton University** (GPA: 11.12/12)

Final Year Project: *Torsion Points on Elliptic Curves.*

September 2015 - July 2017 MSc. Mathematics **University of Ottawa**

Thesis: *Highest Weight Orbits and the Convex Hull of the Caratheodory Orbitope*

## SCHOLARSHIPS

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Canada Graduate Scholarship (NSERC) 2016-2017  
University of Ottawa Excellence Scholarship 2016-2017  
Ontario Graduate Scholarship 2016-2017