

About Me

I'm a full stack engineer from Canada currently on sabbatical in Australia taking on freelance projects.

I have experience all over the stack, from designing A/B tests on the front-end to backend and data engineering.

Education

University of Waterloo

Computer Science (9/2016 - 4/2021)

Dean's Honour List, 91 Average

Favourite Courses: Computer Graphics, Science Fiction, Game Theory

Skills

Programming Languages

Python
JavaScript/Node
Java/Kotlin
C/C++

Frontend Frameworks

React
Angular

Graphics and Visualization

OpenCV
OpenGL
d3.js

Interests

Ultimate Frisbee

I've played for my university's school team for three seasons.

I also played on NYU's team while living in New York and for an Australian team during their national beach tournament.

Cycling

I worked at a bike shop in Australia for 3 months

While in New York I biked to work every day, as well as to all five boroughs.

Creative Writing

I write articles about various math, sports and business topics on my blog.

Experience

Software Engineer Noom

📅 9/2021 - Present

- Pioneered a new system for client-server communication that reduced DB costs by 3x
- Introduced the ability to deploy developer instances of services on-demand to speed up dev velocity
- Developed and launched the second iteration of Noom's experiment framework which serves all traffic on noom.com

Data Engineer Munich Re

📅 9/2019 - 12/2019

- Developed custom visualization, navigation and annotation components for reviewing medical PDFs in the browser
- Managed the production deployment of a hosted PDF viewer using Docker and CI/CD pipelines
- Orchestrated machine learning pipelines with Airflow

Data Scientist Munich Re

📅 1/2019 - 4/2019

- Researched and implemented a parallelized, clustering-based algorithm to reduce dimensionality in datasets with correlated features
- Developed black-box model interpretation tools in Python and React
- Evaluated alternative data sources using interpretable random forest models

Software Developer Bonfire Interactive

📅 5/2018 - 8/2018

- Developed new features for the core procurement app with Angular and Node
- Kickstarted the consolidation of several backend services into a Node API
- Spearheaded the addition of an integration testing framework

Selected Projects

GNight Generalized knight simulator and visualizer

📅 7/2019

C++, OpenCV, d3.js

- Analyzed movement of general chess knights using BFS and Random Walk algorithms
- Built a path visualization module using C++, OpenCV
- Implemented animated visualizations in d3 for the explorative post on my blog

GoCV Templated resume generator

📅 9/2019

Golang

- Built a resume template engine to generate this resume from JSON data
- Supports LaTeX and HTML formats

Teaching and Research

Research Assistant

📅 5/2019 - 8/2019

Stereo 3D Images (Supervisor: Lesley Istead)

- Researched algorithms for consistent stereo 3D line drawings
- Implemented a 3D image stylization algorithm in OpenCV

Teaching Assistant

📅 9/2017 - 4/2021

Math and Computer Science

- Organized and presented end-of-term review sessions for hundreds of students
- Prepared weekly review courses for first year courses
- Specialties: Functional Programming, Linear Algebra, Statistics