

## Experience

### Lead Software Engineer Noom

📅 8/2024 - 4/2025

- Grew GraphQL adoption from non-existent to 100s of RPS across dozens of types by hosting org-wide presentations, workshops, and info sessions
- Planned and oversaw load tests for our GraphQL backend-for-frontend service to handle spikes of 10x normal peak load
- Enabled end-to-end, multi-service testing across all Spring and Django services with HTTP header routing

### Senior Software Engineer Noom

📅 8/2023 - 8/2024

- Prototyped and implemented a Kotlin-based GraphQL service to handle all of Noom's client-server communication
- Launched a system for ingesting, routing and processing events asynchronously using AWS SNS and SQS
- Contributed to a company-wide template and shared library ecosystem for creating new Kotlin-based backend services

### Software Engineer Noom

📅 9/2021 - 8/2023

- Introduced on-demand beta deployments of services with CloudFormation, allowing engineers to test independently; in three years this system was extended to 20+ services and 1000+ instances were created
- Reduced iteration times by 3x and eliminated contention for shared AWS resources with a Docker-based local alternative
- Migrated backend CI/CD pipelines to GitHub Actions and reduced deployment times by 43 percent
- Implemented a developer friendly early-warning system for breaking changes made to Protobuf types using GitHub Actions

### Growth and Data Engineer Intern Noom

📅 5/2020 - 12/2020

- Cut data pipeline execution times in half for JSON-based data using Redshift Python UDFs
- Implemented Noom's landing page experiment engine in Node.js, powering all traffic to noom.com
- Designed experimental front-end experiences with React

### Data Engineer Intern Munich Re

📅 1/2019 - 12/2019

- Developed custom visualization, navigation and annotation components for reviewing medical PDFs in the browser
- Researched and implemented a parallelized clustering algorithm in Python to reduce dimensionality in large datasets

### Software Developer Intern Bonfire Interactive

📅 5/2018 - 8/2018

- Developed new features for the core procurement app with Angular.js and Node

## Selected Projects

### Bicyclopedia: Interactive Bicycle Part Explorer

📅 8/2025

- Animated dozens of hand-drawn bicycle components using HTML Canvas and Javascript
- Created a pixel-based label system by manipulating images with Python and OpenCV

### Generalized Knights

📅 7/2019

- Analyzed movement of generalized chess knights using BFS and Random Walk algorithms
- Implemented animated visualizations in d3 for the explorative post on my blog

### Static Site Resume Generator

📅 9/2019

- Implemented a Markdown-based static site engine in Go to host my personal website and blog
- Extended the static site generator to output PDF and HTML versions of my resume from output-agnostic JSON data

## Teaching and Research

### Computer Graphics Research Assistant

📅 5/2019 - 8/2019

- Researched and implemented algorithms for consistent stereo 3D line drawings using C++ and OpenCV

### Math and CS Teaching Assistant

📅 9/2017 - 4/2021

- Prepared and hosted one-on-one weekly review sessions for first- and second-year university students

## Education

### University of Waterloo Bachelor of Computer Science

- Dean's Honour List, 91 Average
- Favourite Courses: Computer Graphics, Science Fiction, Game Theory