

Justin Bull

Staff Software Engineer, Sr. App Security Engineer

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Profile

I am an energetic, dedicated, and hard-working problem solver with a curious mind. I have a sharp attention to detail while maintaining perspective on the bigger picture. **I have 10+ years of vast professional software development experience** across the full web stack in a plethora of languages, frameworks, and paradigms.

I'm naturally skilled at becoming proficient in any new programming environment or business domain.

I am the [Solver staff archetype](#) who can dig deep into arbitrarily complex problems and finds an appropriate path forward.

Competencies

Python • **Flask** • **Ruby** • **Rails** • Sinatra • **React** • Redux • **TypeScript/JavaScript** • **PostgreSQL** • MySQL • Java • **HTML & CSS** • Backbone.js • AngularJS • **ELK Stack** • **AWS** • Nomad • NGINX • dbt • Apache Airflow

Financial Technologies • Production/Live Systems Monitoring • Technical Documentation • Technical Project Leadership • Stakeholder communication • IT management • Polyglot programmer • Mentor • Applied Cryptography • Application Security

Work Experience

Staff Software Engineer – Wealthsimple

2021 – 2023

Operated as the technical lead on the Wealthsimple Tax product and team, cooperating closely with management and company directors. Maintained, modernized, and expanded the capabilities of the product as well as identifying and plugging security vulnerabilities. Successfully navigated and supported two tax seasons. Defined and initiated a multi-year path forward for deeper Wealthsimple infrastructure ecosystem integration. Shipped an internal API, decoupling the business logic from legacy SSR HTML and jQuery & Backbone layers. Scoped and implemented dense and sometimes ambiguous Canada Revenue Agency specifications to compliance: specifically bar code symbology encoding. Mentored some junior mentors in Python and computer science fundamentals.

Senior Software Engineer – Wealthsimple

2019 – 2021

Working on a tiger team, I was deployed on a variety of cross-functional, cross-domain deficiencies and built scalable, enduring solutions. Also on the Securities Management team, I helped mature, automate, and scale many of our back-office operations to handle exponential client growth. The latter was deep dives into memory and CPU performance optimization and tuning.

Senior Application Security Engineer – Wealthsimple **2018 – 2019**

As the sole security engineer at the time, I built and maintained security features such as 2FA, login history, & device tracking. I also worked with the director to monitor, log, analyze, and respond to security incidents and anomalous behaviour on our networks. I mentored engineers on secure design principles and also overhauled the architecture to be more secure. During my tenure I identified and resolved many security vulnerabilities.

Software Engineer 1 – Wealthsimple **2016 – 2018**

Working on the Trading Team, I helped build fault-tolerance, add resilience, and streamline and scale the trade generation workflow system.

Software Developer – FreshBooks **2013 – 2016**

Working within an agile scrum team, I helped implement the product redesign project into our 600,000 LoC legacy codebase. In addition, I helped develop internal tools to aid the company in making smart business decisions. I also identified and rectified security vulnerabilities.

Web Application Developer – Conduit Labs **2012 – 2013**

A freelance company I co-founded. We built tracking software using Rails, Backbone.js, Pusher, and Google APIs for a client.

Web Application Developer – Konrad Group Inc. **2011 – 2012**

Built robust and scalable Ruby & PHP driven applications, rapidly producing standards-compliant web sites from design files made in Illustrator or Photoshop.

Volunteer Experience

Canvasser – Ontario New Democratic Party **2022**

I knocked on doors and canvassed the Parkdale—High Park riding for MPP Bhutila Karpoche's 2022 re-election campaign.

Education

Toronto Metropolitan University (formerly Ryerson University)

Bachelor of Science, Computer Science

2009 – 2015

Queen's University (Faculty of Law)

Introduction to Canadian Law (*undergraduate, online*) – 3.70 GPA (A-)

2020

Notable Works & Accomplishments

1. Developer 30 Under 30 Award recipient, 2018
2. I identified and notified the Canada Revenue Agency (CRA) they were vulnerable to [Heartbleed](#).

- Interview on [CTV's Power Play](#) (skip to 3:00)
 - Top story on [CBC's The National](#)
3. Rode the [Ride to Conquer Cancer](#) twice (220km), raising \$2,505 in 2013 and \$3,895 in 2018
 4. Discovered & privately disclosed two moderate security issues to [SimpleTax](#).
 5. Discovered & privately disclosed a site-ending, critical security issue to Fetlife.
 6. Discovered & disclosed security vulnerability [CVE-2016-6582](#) to [Doorkeeper](#) software.
 7. Discovered & disclosed security vulnerability [CVE-2015-7225](#) to [Devise-Two-Factor](#) software.