

# Steven Bai

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## TECHNICAL SKILLS

**Languages:** Python, JavaScript, TypeScript, C++, Java, SQL, HTML, CSS

**Frameworks/Libraries:** React/React Native, Next.js, Node.js, Express, Ruby on Rails, Angular, Tailwind CSS

**Cloud/Databases:** AWS, Firebase, PostgreSQL, Snowflake, Redshift, Kafka, Airflow, Docker, Kubernetes, Datadog

## EDUCATION

### University of Waterloo

Sept. 2022 – April 2027

*Honours Bachelor of Computer Science*

*Waterloo, ON*

- Courses: Data Structures and Algorithms, Sequential Programming, Computer Networks, Human-Computer Interaction, Object-Oriented Programming, Mobile Application Development, Operating Systems, Combinatorics, Graph Theory, Statistics, Calculus, Linear Algebra

## EXPERIENCE

### Wealthsimple

May 2025 – Aug 2025

*Software Engineer Intern*

*Toronto, ON*

- Developed a **business intelligence platform** for Wealthsimple Advisors, integrating **Airflow pipelines** with **AWS Redshift** to deliver automated portfolio insights via Slack, driving **80% advisor engagement**.
- Engineered a scalable **fee-calculation service** in **Rails** with **Kafka pub/sub**, automating rate updates for **600+ clients managing \$300M+ AUM**.
- Optimized asynchronous processing using **Sidekiq**, improving system throughput and reliability for scheduled financial computations.

### Constant Contact

Jan 2025 – Apr 2025

*Software Developer Intern*

*Kitchener, ON*

- Integrated AI-powered bulk import system on **AWS EKS** with **Bedrock**, classifying **80M+ contacts/month**.
- Implemented secure file processing with **S3 presigned URLs**, **SQS queues**, and **Lambda** triggers for event-driven enforcement, supporting **400K+** monthly imports from small businesses.
- Standardized **AWS Lambda** deployments with **Docker** and **CloudFormation** to enable versioned CI/CD, improving release reliability and observability.

### Datacurve (YC W24)

March 2024 – August 2024

*Software Engineer (Contract)*

*San Francisco, CA (remote)*

- Curated and relabeled **coding datasets** for **Cohere's Coral AI model**, improving generation accuracy through prompt and output refinement.
- Debugged complex **C/C++** and **Python** programs to identify model failures, enabling high-quality data ingestion for fine-tuning.

### Uncaught Exception Inc.

May 2024 – Aug 2024

*Software Engineer Intern*

*Vancouver, BC*

- Scaled **AlgoMonster** platform to **5K+ Daily Users** using **Next.js**, **Firebase**, and **AWS ECS + EC2**.
- Implemented analytics-driven **A/B testing** with **Amplitude + Hotjar**, reducing bounce rates by **30%**.
- Streamlined **CI/CD** with integration tests in **GitHub Actions + Docker** for Next.js deployments.

### Rich Media

May 2023 – Aug 2023

*Full Stack Developer Intern*

*Toronto, ON*

- Led Agile development of **Scotiabank credit card planner** and **TD mortgage calculator** with **Angular + Jenkins**, used by **thousands daily**.
- Built **TypeScript + Playwright** asset extraction tool, cutting prototyping time by **1 hour per iteration**.
- Resolved **20+ critical bugs** during cross-device testing, tracked via **Bugzilla**.

## PROJECTS

### Chess Machine

Nov 2023 – Dec 2023

*C++, MVC, Alpha-Beta Pruning*

- Developed a complete chess engine using **OOP**, **MVC**, and **Observer** patterns, supporting AI mode.
- Implemented **Minimax** algorithm optimized with **Alpha-Beta pruning**, achieving **5-ply search depth in under 2 seconds** and ensuring safe memory handling via **unique pointers**.