# Steven Bai

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## TECHNICAL SKILLS

**Languages**: C/C++, Java, JavaScript, Typescript, HTML/CSS, Python, SQL, Kotlin
**Frameworks**: React, React Native, Next.js, Angular, Node.js, Express, Tailwind CSS
**Technologies**: AWS, Docker, Kubernetes, Jenkins, Firebase, Supabase, PostgreSQL, MongoDB, GraphQL, OpenAI, TortoiseSVN, Heroku, Git, Linux, Postman, Figma

## EDUCATION

**University of Waterloo**                                                      Sept. 2022 – April 2026
*Honours Bachelor of Computer Science*                                         *Waterloo, ON*
- PureFacts PureScholars Award in Mathematics Recipient (2022)
- Courses: Data Structures and Algorithms, Sequential Programming, Object-Oriented Programming, Mobile Application Development, Operating Systems, Combinatorics, Graph Theory, Statistics, Calculus, Linear Algebra

## EXPERIENCE

**Constant Contact**                                                           Jan 2025 – April 2025
*Software Developer Intern*                                                     *Kitchener, ON*
- Developing a scalable contact import system on **AWS EKS**, utilizing **Kubernetes** for orchestration, presigned URLs with **S3** for secure file storage, and **Aurora** for reliable processing, reducing back pressure in imports.

**Uncaught Exception Inc**                                                      May 2024 – Aug 2024
*Software Engineer Intern*                                                      *Vancouver, BC*
- Built and optimized **AlgoMonster**, a platform for data structures and algorithm content, practice problems and learning tools, using **Next.js**, **Firebase** and **AWS ECS, EC2** and **S3**, scaling to **5,000+** daily users worldwide.
- Implemented **A/B testing** frameworks using **Firebase**, and integrated **Amplitude** analytics with **Hotjar** heatmaps to evaluate feature performance, increasing subscription page conversion rate by over **5 times**.
- Streamlined **CI/CD** pipelines with **GitHub Actions** and **Docker**, cutting deployment times by 30%.
- Built AI-driven content creation pipelines using **Python**, **Pandas**, **OpenAI API**, and **Manim**, generating SEO optimized articles and videos, reducing bounce rates by **20%** and boosting YouTube traffic by **50%**.

**Datacurve YC W24**                                                           March 2024 – May 2024
*Data Engineer*                                                                *San Francisco, CA*
- Trained generative AI models by curating hundreds of complex coding datasets for **Cohere**'s **Coral AI** model.
- Debugged complex **C/C++** programs and Leetcode-Hard rated **Python** problems to identify AI model errors and improve accuracy with data relabelling.

**Rich Media**                                                                 May 2023 – August 2023
*Full Stack Developer Intern*                                                   *Toronto, ON*
- Led **Lean-Agile** development of credit card planner for **Scotiabank** and mortgage calculator for **TD Bank** using **Angular** and **Jenkins** for **CI/CD**. Used by **thousands** of daily banking and insurance users.
- Developed an asset extraction tool using **TypeScript** and **Playwright** to scrape fonts, images, and HTML from banking/insurance tool websites, saving 1 hour each time for rapid prototyping.
- Resolved **20+** critical bugs while conducting cross-device testing, with **Bugzilla** for tracking and collaborating.

**iContribute**                                                                March 2021 – August 2021
*Frontend Developer Intern*                                                     *Ottawa, ON*
- Built a cross-platform app using **React Native** and **Firebase**, enabling 58+ partner organizations to connect with 1000+ active users for remote and in-person volunteer opportunities during the pandemic.
- Designed 15+ responsive user interfaces and components with **MUI** and **Figma**, improving **UI/UX** and gained 20+ weekly matches for volunteering.

## PROJECTS

**Chess Machine** ✎                                                            Nov 2023 - Dec 2023
- Collaborated with a team to develop a fully-functioning chess game in **C++** using **OOP** principles, **MVC**, and **Observer** patterns for 2-player and AI modes.
- Implemented a **Chess Machine** with skill level of 1200+ using a Minimax algorithm optimized with alpha-beta pruning, reducing computation time from 10 seconds to 2 seconds on depth level 5.