

Anderson Lai

647-939-7936 | amlai@uwaterloo.ca | andersonlai.ca | linkedin.com/in/anderlai

Technical Skills

Languages: C, C++, C#, Javascript, Typescript, Python, Rust, SQL
Frameworks: React.js, Next.js, ASP.Net Core, Tailwind CSS, Bootstrap
Developer Tools: Git, GitHub, Linux, CMake, Microsoft Azure, $\LaTeX$

Education

University of Waterloo

Bachelor of Applied Science in Electrical Engineering, Honours

Sept. 2026 – Apr. 2031

Waterloo, Ontario

Experience

Full-Stack Web Development Internship

GRT Health

July 2024 – Aug. 2024

Aurora, Ontario

- Developed a ticketing system using **C# and ASP.Net Core** by designing **RESTful APIs**, streamlining communication between clients and developers regarding issues with company software
- Authenticated clients and managed ticket data using **SQL** to communicate with the company's database
- Incorporated automatic email notifications using Google's SMTP service, providing real-time alerts to developers on ticket creation and users on ticket status updates

Co-Founder, Developer, and Lead Instructor

CodeUp Tutoring Association

July 2024 – Present

Richmond Hill, Ontario

- Co-founded a not-for-profit tutoring agency, providing accessible programming lessons for youth in the community
- Developed a landing page using Next.js to **improve performance and SEO** through server-side rendering and static generation, leading to **50+ signups and \$2500+** of revenue
- Led a team of 7 instructors, ensuring a high quality and consistent learning experience across campuses
- Taught 3 semesters of a 12 week beginner and intermediate Python course to 30+ total students

Projects

Ram's Media Club | Project | React.js, Typescript, Tailwind CSS

July 2024 – June 2026

- Developed a home page for my high school's media club using React.js, Typescript, and Tailwind CSS, reaching over **2000** monthly page visits
- Implemented a search bar for school clubs by **parsing club descriptions and cleaning search queries**, increasing site usage and aiding new students
- Created a showreel to highlight executives' media and artwork by cycling through saved files on disk to increase initial load speed, supporting club promotion

Password Manager | GitHub | Rust

Mar. 2025 – Apr. 2025

- Developed a secure password manager using Rust to provide an open-source alternative to paid password managers
- Employed Rust's `OsRng` crate to generate cryptographically secure salts and nonces for password encryption
- Derived an encryption key with the master password and salt using **Argon2id** to hinder brute force attacks on encrypted passwords
- Encrypted passwords with **AES-256-GCM** encryption and decrypted passwords by validating AES-GCM authentication tag upon attempted password retrieval with master password to ensure password security

Texnique Bot | GitHub | Javascript, $\LaTeX$

June 2026

- Developed a Firefox extension using Javascript, allowing users to consistently score the maximum score on texnique.xyz within the allotted time frame
- Implemented a search algorithm to prune for problems with at least a minimum amount of points, leading to a **5% time buffer** for obtaining the maximum score
- Analyzed expected total scores with differing minimum point threshold using **statistical analysis** to set a suitable minimum point threshold for securing the maximum allowable score
- Designed a **greedy search algorithm** to find the highest value problem without overflowing the point leaderboard, allowing for the maximum score on the leaderboard to be obtained