

Edwin Zheng

ezheng09@student.ubc.ca | 613-314-3078 | [GitHub/lucien950](https://github.com/lucien950) | [LinkedIn](#) | [Website](#)

SKILLS

Languages: C/C++, Python, JavaScript/TypeScript, SQL (MySQL, PostgreSQL), R, Java, Rust, Racket
GUI: React/NextJS, Flutter, OpenGL/ES on ARM, VueJS, TailwindCSS
Frameworks: GitHub Actions/GitLab Pipelines, STM32 (CubeMX), FreeRTOS, SEGGER, Testing (GoogleTest, Mocha, Chai, Playwright)
Developer Tools: Git/GitHub, AWS/Google Cloud, CMake (x86, Embedded Arm), WSL/Linux/Yocto, Docker/Kubernetes, OpenVPN, SVN

EDUCATION

UBC BSc Honours Combined Degree in Computer Science and Mathematics (GPA 4.18/4.33, Dean's List) (*Junior, 2022-2026*)

SUMMARY

Looking for a Full Time Job.

EXPERIENCE

Rivian | *Embedded Software Engineer (System HIL)* [May 2024 – Aug 2024] | C/C++, Python, NextJS, Ethernet Drivers, PCAN

- Designed and optimized software-based hardware test infrastructure, coordinating bench tools to create realistic test scenarios.
- Optimized C++ based BLF logger (FDCAN/ETH/LIN), reduced dropped packets by 95%, improved logging rate by 30%
- Improved UX for **test case development** by migrating all testing to full stack React/NextJS web app for **test action editing**.
- Led foundational architectural overhaul of test tooling by redesigning core UDS API, enabling expression of complex behaviours.

UBC Formula Electric | *Software Director* [Sep. 2022 - Present] | Embedded C/C++, NextJS, Typescript, Flutter, Docker, Yocto

- Led 22 Software Devs to 21st (2023), 31st (2024) in FSAE Michigan, passed all inspections/events first time in school history.
- Founded of **autonomous driving division**, designing visual feature detection, SLAM, vehicle controls algorithms.
- Designed telemetry system, hosted on AWS, on Influx SQL database on Docker, NextJS Frontend, with WebSocket/REST APIs.
- Implemented and enforced C/C++ code style, eliminating all memory bugs at compile time, improved mock interface.
- Established validation team, no-car/HIL **validation strategy** with GitHub Actions + code review, reduced prod bug reports -30%.
- Led the development of dashboard software in Flutter on **custom embedded Linux** distro in Yocto, including async dart-ffi CAN.
- Developed **All-Platform** CMake build system/package manager, reduced generation/cross-compile times by 70%.
- Implemented sensor processing in C for 9 sensors, 3 communication protocols (ADC, I2C, SPI), broadcasting over **CAN bus**.

JHY Electrical | *Principal Full-Stack Web Developer* [Oct 2022 – May 2023] | NextJS, SQL

- Established web presence for local (Ottawa) electronics business, enabling online catalogue/orders, deployed on Vercel.
- Designed UX, implemented UI built with **NextJS/React** app in Typescript, styling with TailwindCSS, ShadCN components.
- Developed CRUD backend API interfacing with PostgreSQL database, **PayPal Orders/Stripe Payment Intents** Server-Side API.
- Ensured confidence in functionality through tests implemented across the entire stack with Jest and Playwright.

UBC Computer Science Student Society (CSSS) | Admin Officer [Jan 2023 –]

- Host **biweekly meetings** to discuss and demonstrate approaches to Leetcode problems in Python and C++.

TECHNICAL COMPETITIONS

Competitive Programming

- Member of **UBC Division 1 Team** ('23, '24), competing in weekly contests, International Collegiate Programming Contest (ICPC)
- **2nd place in Division 2 at ICPC Pacific Northwest** (2022), completed contest using Python and C++.
- Achieved top 10% in Canadian Computing Competition Senior Division from Grade 10-12.
- Developed and optimized complex data structures and algorithms based on mathematical principles.

nwHacks Mentor (Jan 2023), Winner (Jan 2024)

- [2024] [Booktrail](#) won 1st for Best Use of MappedIn SDK and 2nd in the Wild Card Track in nwHacks.
- NextJS+Typescript Fullstack application, TailwindCSS, ShadCN UI component library, integrating with OpenLibrary API, deployed on Vercel.
- [2023] Selected to mentor at the largest hackathon in Western Canada, with 600 participants and 131 projects; Helped hackathon participants in range of technology, React/Express APIs (GPT)/Unreal engine/Web3 blockchain technology.

OTHER PROJECTS

Chicco Optical

- Built an Ecommerce Website with VueJS, TailwindCSS, and Typescript.
- Authenticated payment with Stripe, created and validated orders with Express backend hosted on Firebase Functions.
- Used NoSQL Firestore database to store product and order information.