

Zachary Koo

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Summary

Full Stack Developer with 4 years of professional experience building scalable web applications. Skilled in React, TypeScript, Node.js, and PostgreSQL, with recent focus on AI feature integration and front-end modernization. Passionate about clean code, testing, and delivering great user experiences.

Skills *(Years of experience listed after each item.)*

Languages: Python 6 | JavaScript 5 | Java 4 | C/C++ 4 | C# 3 | Go 2 | TypeScript 2 | PHP 0.5

Frameworks: React 4 | Angular 3 | Vue 1

Databases: Elasticsearch 2 | Firebase 2 | Sequelize 2 | MySQL 2 | SQLite 1

Education

BSc in Computer Science, Graduation: 12/2022

University of Calgary, Calgary

- GPA: 3.72 / 4.00 (Magna cum laude)

Japanese Language Exchange Program: 2018–2019

Senshu University, Tokyo

- GPA: 3.92 / 4.00 (Magna cum laude)

Experience

Disco inc. - Toronto (Remote), AB | Full Stack Engineer | 05/2025 - CURRENT

- Implemented AI-powered features in the web application, including curriculum generation, video transcription, and chat-based learning assistant.
- Developed key platform components such as the event drawer, member leaderboard, CSV uploader, and video upload workflows.
- Led migration from legacy useStyles to modern CSS Modules, improving code maintainability and front-end performance.
- Built comprehensive end-to-end and integration test coverage to ensure high code quality and reliability.

GDM inc. - Calgary (Remote), AB | Full Stack Engineer | 05/2023 - 05/2025

- Pioneered the adoption of advanced technologies, including Redux, React Query and ESLint resulting in a substantial improvement in software performance.
- Contributed to the development of innovative features for Converge, excelling in both front-end and back-end tasks. Fostered a culture of continuous improvement within the team.
- Proactively investigated and resolved test failures and customer issues, demonstrating a commitment to delivering high-quality products and ensuring customer satisfaction.
- Implemented comprehensive testing strategies, including API tests, Storybook tests, and Unit tests, enhancing the overall reliability and quality of the software.

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University of Calgary (Japanese Language Website) - Calgary (Remote), AB | Web Developer | 05/2024 - CURRENT

- Utilize React as the primary framework to develop an interactive Japanese Learning website, featuring quizzes, study materials, blogs, and other educational resources.
- Collaborate with a professor to design and implement the website, enhancing the learning experience for Japanese language students at the university.
- Leverage Amazon S3 for database storage and management, ensuring reliable and scalable data handling.

Honest Empathy - Calgary (Remote), AB | Full Stack Engineer | 09/2022 - 06/2023

- Utilize React JS as the front-end framework to create modular, user-friendly interfaces. Implement robust testing practices and implement responsive design principles for optimal mobile compatibility.
- Leverage Node, Redux, Express, Sequelize and Firebase as the primary REST API frameworks to construct scalable, multi-tenant database endpoints that include intricate relational models.
- Designed and executed a highly efficient real-time chat system by utilizing Firebase's real-time database features, resulting in seamless and immediate updates for enhanced user communication.
- Introduced and Implemented automated end-to-end Cypress testing and unit testing using Jest to increase testing efficiency and reduce manual testing time for the application.

Projects

[Distributed System](#) | Academic

- Developed a robust Peer-to-Peer Distributed system in Java utilizing the B-multicast algorithm, featuring both peer and registry processes to achieve efficient data distribution and management.
- Spearheaded the implementation of a cutting-edge communication system, leveraging paradigms such as fault tolerance and coordinated timed systems, paired with ACKs, to enhance system reliability and synchronization.
- Established a high-performance UDP Datagram socket connection, capable of concurrently handling a minimum of 121 user requests with negligible delay, and optimized for seamless scalability and performance.

Competitions & Certificates

2021| Calgary Collegiate Programming Contest 6th place

2020| Alberta Collegiate Programming Contest 12th place

2019| Japanese N2 Language Test