

# David Liu

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## Skills

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

**Frameworks:** React, Ruby on Rails, Express.js, Next.js, Jest

**Technologies:** Node.js, AWS, GraphQL, Git, Docker, Datadog, Splunk, Linux, Kafka, Kubernetes

## Education

### University of Waterloo

Candidate for BAsC, Systems Design Engineering

Relevant Courses: Data Structures and Algorithms, Human Factors in Design

Waterloo, ON

Sept 2020 - Apr 2025

## Experience

### Motive - Software Engineer - Safety Team

San Francisco, CA

Go, Terraform, Kafka, AWS, Kubernetes, PostgreSQL

Sept 2023 - Dec 2023

- Constructed the harsh event pipeline consisting of MQTT, IoT rule, Kafka topic, Kafka consumer and SQS, providing the infrastructure for over 10 million safety events to be processed from 1 million vehicles daily
- Implemented indexes on PostgreSQL databases and refactored GORM queries to use SQL common table expressions, reducing load times on fleet manager safety pages by over 60%

### Motive - Software Engineer - Asset Tracking Team

San Francisco, CA

Ruby, Ruby on Rails, Java, Go, PostgreSQL, DataDog

Jan 2023 - Apr 2023

- Owned the refactoring of a backend service used for managing driver vehicle pairings from Java into Ruby on Rails, reducing latency by 98% on 7 million daily queries by eliminating the need for gRPC calls
- Orchestrated the development and production rollout process of the service by writing a technical design document and project road map, implemented Datadog monitoring to improve the service maintainability

### UW Blueprint - Project Developer - JUMP Math

Waterloo, ON

TypeScript, React, GraphQL, Node.js, MongoDB

Jan 2023 - Present

- Collaborating with project developers and designers to build a fully fleshed digital assessment tool for the charitable organization JUMP Math, which has delivered curriculum to over 2 million students worldwide
- Developed the complete frontend and backend of the classrooms feature based on Figma designs using TypeScript, React and GraphQL, allowing teachers to create/ delete classrooms and add students

### Zynga - Software Engineer - Words with Friends

San Francisco, CA

Ruby, Ruby on Rails, MySQL, Jenkins, Splunk

Apr 2022 - Aug 2022

- Designed and developed new endpoints and logic within Ruby on Rails for a "mark suspicious user" feature to enhance safety for 50 million active players worldwide
- Established Hosted Graphite monitoring to track and add alerts to 1000+ metrics

### Cynorix - Full Stack Developer

Waterloo, ON

JavaScript, React, Node.js, Express.js, MongoDB, Firebase, WebSockets

Sep 2021 - Dec 2021

- Spearheaded the end-to-end development of a web-based full-stack video chat meeting management platform complete with Twilio and SendGrid two-factor authentication
- Engineered and deployed a secure file sharing web application using SHA hashing and AES encryption

### Pillar to Post - IT Support & Quality Assurance

Toronto, ON

Python, Selenium, Azure DevOps

Jan 2021 - Apr 2021

- Introduced automated unit testing with Python Selenium, increasing testing efficiency by 30%
- Developed and iterated through smoke and regression test scripts to ensure successful deployments of the web and mobile applications relied upon by 550+ franchise locations