

Harry Qu

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WORK EXPERIENCE

Software Engineer, Atlassian

February 2025 - Present

- Improved Atlassian Observability Logging Platforms processing **1.2+ PB** of data per day by developing high-throughput and low-latency services using **Golang, Java, Python** and **AWS**.
- Implemented ingestion quota system with automated notifications and monitoring, preventing runaway ingestion patterns across **10,000+** services, reducing unbounded data growth and improving end-to-end processing latency by **~23%**.
- Hardened critical failure paths, introducing fallback storage and recovery mechanisms that preserved log availability during partial outages and reduced MTTR by **~42%** in subsequent incidents of similar scale.
- Migrated infrastructure from **Ansible** to **Terraform**, standardized workflows and reduced operational overhead by **~60%**.

Software Engineer, TikTok

November 2023 - February 2025

- Architected and implemented scalable and robust **Golang, Python** and **Java** microservices, using technologies such as **RPC, Thrift, MySQL, Redis, Kafka** and **Kubernetes** to deliver live streaming features to global user base of over 1 billion.
- Led projects to build new data products to deliver accurate core datasets and metrics adopted widely by end users, internal teams, and agency partners with optimized performance and reliability.
- Refactored core systems including data storage, service communication, and application logic, improving query performance by an average of **~150%** and significantly enhancing user experience.
- Proposed and implemented metrics middleware and alerting in various services, enabling proactive issue detection in service, leading to **80%** drop in number of my team's average on-call issues.

Software Engineer & DevOps, Spark

April 2023 - November 2023

- Built and managed CI/CD pipelines for large-scale (**500k+** users) apps using **Docker, Terraform, AWS** and **Azure**.
- Developed tooling and platforms for managing on-prem and cloud server builder dependencies using **React, Python, Java, Nodejs (Express)**, reduced storage space and sped up build process, saving estimated value of **\$300k** annually.

Software Developer Intern, Akuna Capital

November 2022 - February 2023

- Designed, developed, tested, and maintained real-time market data visualisation applications using **C#, .Net, NUnit, JavaScript/TypeScript (React)** and **Python**.
- Built tools to retrieve **billions** of time series market data daily and wrote highly parallel analysis framework to filter and sanitize data, integrated efficient storage with **TimescaleDB**, capable of handling complex queries within milliseconds.
- Deployed applications using **Docker** and **Kubernetes**. **Prometheus** for metrics collection and **Grafana** for monitoring.

Software Developer Intern, Tidy

May 2022 - July 2022

- Migrated legacy backend infrastructure to modern stack, utilising **C#, .NET** and **Azure DevOps** with CLEAN architecture.
- Developed administrative portal for managing clients' data with **React, TypeScript, C#** and **Azure**.
- Added hundreds of unit tests and integration tests to improve the test coverage of core services to **100%**, reducing frequencies of failures in several features by up to **85%**.

Graduate Teaching Assistant, University of Auckland

June 2022 - October 2023

- Conduct lessons for over **200** students in Object Oriented Programming, Web Development and Operating Systems.

SKILLS

DEVELOPMENT: Java, Golang, C#, Python, JavaScript/TypeScript (React), SQL, Redis, Kafka, Elasticsearch, gRPC

DEVOPS: Linux, Git/Gitlab, Docker, Kubernetes, Terraform, AWS (DynamoDB, EKS, SQS/SNS, S3, Lambda), Azure, Prometheus, Grafana, ArgoCD, Splunk, Ansible, Scripting, Databricks, Apache Airflow

OTHER: Operating Systems, Networking, Software Architecture, Agile methodology, Data Structure and Algorithms

CERTIFICATIONS

Certified Kubernetes Application Developer (CKAD)

[View](#)

AWS Certified Solutions Architect – Associate

[View](#)

HashiCorp Certified – Terraform Associate

[View](#)

EDUCATION

Bachelor of Engineering with Honours - Software Engineering, University of Auckland

2020 - 2023

Engineering GPA: 8.6/9 (A/A+ Average) - First Class Honours

Faculty of Engineering Dean's Honours List - Cohort Top 5%