

Kenshin Tanaka

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Education

University of British Columbia
BSc in Computer Science, 4th year | Vancouver, BC | Expected Graduation: April 2025

Work Experience

RestUp, San Francisco, CA | Software Engineer | July 2024 - Present

- Designed and implemented an **ETL pipeline** using **Kafka**, **AWS Firehose**, **Lambda**, and **Redshift Serverless** to process crawled data efficiently.

MemoryLab, Tokyo, Japan | Software Engineer (Tech Lead) | August 2023 - Present

- Engineered a natural language search engine leveraging **Qdrant** on **AWS EKS**, enhancing query accuracy with **RAG** (Retrieval-Augmented Generation) implementation.
- Developed a conversion pipeline to transform natural language queries into vector embeddings, significantly improving search functionality.
- Constructed a high-performance **REST API server** using **Go**, designed to interface seamlessly with a machine learning server for efficient data processing and retrieval.
- Orchestrated the deployment of multiple microservices using **AWS ECS**, ensuring optimal cooperation and functionality within the search engine ecosystem.

PLAID, Tokyo, Japan | Software Engineer (Full Stack) | May 2023 - August 2023

- Spearheaded the full-scratch development and architectural design of a complex system linking user-initiated events with a dedicated microservice for comprehensive data analysis.
- Developed and deployed a **Go-based Dataflow job**, optimizing the processing pipeline for event ingestion from **Cloud Pubsub**, enhancing data flow within **GCP**'s ecosystem.
- Integrated advanced real-time monitoring tools, including **Sentry** and **Datadog**, to uphold system reliability and stability.
- Enhanced **End-to-End (E2E) testing** frameworks to support multiple communication channels, automating test processes and database deployment using **Cloud Spanner** and **BigQuery**, resulting in a 50% reduction in E2E test execution times.

Freelance Engineer | Full-stack Web Developer | November 2022 - Present

- Directed the development of a state-of-the-art **Know Your Client (KYC) web application** tailored for the legal sector, from conceptualization to deployment.
- Implemented the front-end with **Nuxt.js** and architected a **Typescript-powered Express back-end**, all within a **Docker Compose** orchestrated environment.
- Deployed the back-end on **AWS ECS** and the front-end on **AWS Amplify**, employing **Terraform** for infrastructure management, enabling swift transitions and rollbacks between staging and production environments.

SOAT Corp, Tokyo, Japan | Backend and ML Engineer | June 2021 - May 2022

- Developed a sophisticated abnormality detection program using **Python** and **machine learning** algorithms, increasing the precision of defect identification in manufacturing.
- Implemented an OCR tool for financial document analysis, converting PDFs and images into actionable data formats, streamlining data extraction processes.
- Enhanced large-scale web applications, addressing feature additions and bug resolutions, utilizing a stack including **React** with **Typescript**, **Express**, **Django**, and **Laravel**.

Open Source Software (OSS) Contributions

- Contributed to [Qdrant](#), a **Rust-based high-performance distributed vector database**:
 - Abstracted snapshot functionality to support various cloud storage solutions, not just local storage.
 - Link to the PR: <https://github.com/qdrant/qdrant/pull/4150>
 - Resolved an issue where data insertion would crash due to insufficient storage, implementing **DiskMonitoringManager** for heuristic capacity monitoring.
 - Link to the PR: <https://github.com/qdrant/qdrant/pull/4165>
 - Earned approximately **\$700 USD** in **bounties** for these contributions.

Competitive Programming & Problem Solving

- Achieved a top **15%** ranking in competitive programming, demonstrating strong problem-solving abilities and proficiency in algorithms.