Kenshin Tanaka

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Education

University of British Columbia - BSc in **Computer Science**, 4th year | Vancouver, BC, (Apr 2025 Grad)

Work Experience

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

- Engineered a natural language search engine leveraging **Qdrant** on **AWS EKS**, enhancing query accuracy with **RAG** implementation for advanced processing.
- Pioneered the development of 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, facilitating efficient data processing and retrieval.
- Orchestrated the deployment of multiple microservices using **AWS ECS**, ensuring their optimal cooperation and functionality within the search engine ecosystem. Fostered a culture of innovation and team collaboration.

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

- Spearheaded the full-scratch development and architectural design of a complex system that bridges 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 throughput and data flow within **GCP**'s ecosystem.
- Executed the integration of advanced real-time monitoring tools, including **Sentry** and **Datadog**, to uphold system reliability and stability, achieving exceptional system uptime.
- Amplified the robustness of **End-to-End (E2E) testing** frameworks to support multiple communication channels, automating test processes and database deployment using **Cloud Spanner** and BigQuery, which resulted in a 50% reduction in E2E test execution times.

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

- Directing the development of a state-of-the-art Know Your Client (KYC) web application tailored for the legal sector, encompassing comprehensive phases from conceptualization to deployment.
- Implementing the front-end with Nuxt.js and architecting a Typescript-powered Express back-end, all within a **Docker compose** orchestrated environment for enhanced scalability and maintainability.
- Strategically deploying the back-end on **AWS ECS** and the front-end on **AWS Amplify**, employing **Terraform** for infrastructure management, which enables swift transitions and rollbacks between staging and production environments.

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

- Collaborated on a team to develop a sophisticated abnormality detection program, using **Python** and **machine learning** algorithms, which substantially increased the precision of defect identification in manufacturing.
- Implemented an OCR tool for financial document analysis, converting PDFs and images to actionable data formats, thereby streamlining data extraction processes.
- Contributed to the enhancement of large-scale web applications, addressing feature additions and bug resolutions, and employing a diverse stack that includes **React** with **Typescript**, **Express**, **Django**, and **Laravel** for full-stack development capabilities.

Personal Projects

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, proposing and 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.