

Kai-Yuan Cheng

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Education

National Cheng Kung University

Sep 2024 - Present

M.S. in Computer Science and Information Engineering

- Distributed Systems Laboratory
- Thesis: A Configuration Tuning Enhancement Framework Based on LLM and Bayesian Optimization: A Case Study of RocksDB
- Proposed a hybrid framework combining Large Language Model and Bayesian Optimization to address cold-start and high-dimensional optimization challenges in RocksDB tuning

National Kaohsiung University of Science and Technology

Sep 2019 – Jun 2023

B.S. in Computer Science and Information Engineering

Experience

IT Student Assistant, National Cheng Kung University, Office of Sustainable Strategy Development

Sep 2024 - Present

– Tainan, Taiwan

- Maintained the official website deployed on Debian + Docker, ensuring stable operation and updating SSL certificates regularly.
- Assisted in introducing Codex CLI and guided colleagues on its usage, driving AI tool integration and automating administrative tasks.

Full Stack Engineer (Intern), Titansoft – Kaohsiung, Taiwan

Feb 2023 – Jun 2023

- Designed and developed full-stack systems using ASP.NET Core, Vue.js, and MySQL.
- Designed and implemented RESTful APIs and maintained comprehensive API documentation using Swagger.
- Developed a JWT-based authentication mechanism and an IP Rate Limiting middleware module to enhance API security.
- Introduced an Object Mapper conversion mechanism in .NET Core; the design was adopted by senior engineers as a reference.
- Authored unit and integration tests and integrated GitLab CI pipelines to automate testing and deployment processes.
- Collaborated in an Agile environment, participating in requirement analysis, task estimation, and daily stand-ups within Sprint iterations.

Projects

Cloud-Based Distributed Image Processing System (Golang)

- Adopted an Event-Driven Architecture using GCP Pub/Sub to decouple the API upload service from the Worker processing service, enabling asynchronous thumbnail generation and AI label recognition workflows.
- Integrated Google Cloud Vision API for image label recognition, and implemented a fallback mechanism for analysis failures to ensure the main workflow is not interrupted by non-critical component errors.

E-commerce Backend System (Spring Boot)

- Implemented JWT authentication with Redis-based token state management (TTL control and blacklisting), addressing the security limitation of stateless JWTs being unable to be actively revoked.
- Integrated GCP Cloud Storage for image persistence, and used Secret Manager to centrally manage service credentials, preventing sensitive information from being hardcoded.

RAG Knowledge API

- Built a Retrieval-Augmented Generation (RAG) API with an agent-style conversational interface. Used a ReAct loop so the agent could autonomously decide whether to consult the knowledge base.
- Tracked each LLM call's token usage and API cost, aggregating daily statistics for observability and usage monitoring.

Skills

Languages: Golang, Python, C#, Java, JavaScript, C/C++

Frameworks: PyTorch, Spring Boot, ASP.NET Core, Gin, Vue.js

Technologies: Linux, Git, Docker, GCP, MySQL, PostgreSQL, CI/CD, Agile/Scrum

AI Tech: Gemini API, Claude Code, Context Engineering, AI Agent