

Eichi Arakaki

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Projects

Local Cloud — Distributed Media Processing Platform Go, MySQL, React, Tailwind, Docker	Dec 2024 — Mar 2025
<ul style="list-style-type: none">Built a LAN-first distributed media processing system using Go, coordinating background workers via REST APIs and custom TCP protocols.Designed a custom TCP message broker to serialize download jobs, track worker state, and prevent concurrent processing conflicts.Implemented a media pipeline with yt-dlp and ffmpeg to download, transcode, and generate browser-compatible MP4 content.Developed an API gateway to stream media over HTTP and persist metadata in MySQL with defensive cleanup on failures.Applied Go concurrency patterns (goroutines, connection lifecycle management) to safely coordinate communication between services.	
Genie — High-Performance Trading Infrastructure Rust, Tokio, ZMQ, GraphQL, Docker	May 2025 — Present
<ul style="list-style-type: none">Architected a modular microservices trading system (data ingestion, strategy engine, portfolio manager, Risk Manager) using Rust and async Tokio runtime.Built a real-time market data pipeline using ZeroMQ pub/sub and GraphQL, supporting both backtesting and live trading modes.Implemented a trait-based strategy framework and actor-like concurrency model for parallel strategy execution.Designed portfolio and risk engine with Kelly-based position sizing and bounded capital allocation rules.Engineered fault-tolerant communication (reconnection logic, heartbeat monitoring, graceful shutdown).	
MagicStream — AI-Powered Streaming Platform Go, React, MongoDB, JWT, GenAI, HTTPS	Dec 2025 — Jan 2026
<ul style="list-style-type: none">Built a secure full-stack streaming platform with Go (Gin) and React + TypeScript, supporting authenticated browsing, reviews, and personalized recommendations.Implemented JWT authentication with refresh tokens and HttpOnly cookies, enforcing role-based access control and secure session handling.Developed a recommendation pipeline using indexed MongoDB queries to rank content efficiently based on user preferences and genres.Integrated Google Gemini AI to analyze admin reviews and automatically classify content sentiment, directly influencing recommendation results.Designed a secure cross-origin architecture (HTTPS + strict CORS) and modeled MongoDB collections to support secure access and scalable query patterns.	

Skills

Programming Languages: Go, TypeScript, JavaScript, Rust

Backend: Go (Gin, Mux, net/TCP), Rust (Rocket, Actix), REST APIs, WebSockets

Frontend: React, TypeScript, Vite, Tailwind, NextJS

Databases: MongoDB, MySQL, PostgreSQL, ClickHouse

Systems & Tools: Docker, ffmpeg, yt-dlp, Git, JWT Auth, HTTPS

Languages: Spanish (Native), Japanese (N3), English (B2)