# Alan Lo

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## EXPERIENCE

### WEEDMAPS | Backend Software Engineer II
Aug 2023 – Feb 2026 | Irvine, CA

- Led end-to-end migration of a high-throughput ad-serving microservice from Java 17 to 21 (Vert.x/Spring Boot), partnering with SREs on Kubernetes liveness probes, zero-downtime database migration, and custom DataDog observability dashboards—shipped via ArgoCD GitOps pipelines to AWS EKS with zero downtime during peak traffic.
- Engineered RTB bidding algorithms (exponential pacing, greedy allocation) and revenue-optimizing flight-prioritization logic based on CPM bids with fallback mechanisms and sales-region targeting, reducing ad-decision latency from 500ms to 10ms and boosting revenue by 15% at thousands of RPS with 99.9% uptime.
- Designed and implemented real-time cache invalidation using versioned keys and Redis Pub/Sub, replacing 3-minute scheduled rebuilds with 30-second automatic propagation across a distributed Ad-Server fleet on Kubernetes, eliminating user-facing data inconsistencies.

### DISH NETWORK | Software Engineer II
June 2019 – July 2023 | Englewood, CO

- Built and deployed containerized microservices to Amazon EKS, designing CI/CD workflows and on-call runbooks that reduced incident response time for a on-demand video streaming platform serving millions of subscribers.
- Re-architected real-time media pipeline by refactoring legacy C/C++ GStreamer modules into Java/Kotlin services, enabling seamless integration with Android ExoPlayer and unblocking cross-platform streaming delivery.
- Designed and implemented REST APIs for personalized ad insertion and thumbnail generation, shipping 0-to-1 features from prototype to production across multiple broadcast product launches.

## SKILLS

### TECHNICAL SKILLS
Languages: Java 21 • Python • C/C++ • TypeScript
Frameworks: Spring Boot • Vert.x • React
AI/ML & LLM: RAG Systems • Agentic AI • LLM Integration (Ollama/Mistral) • Prompt Engineering
AI-Augmented Dev: GitHub Copilot (Claude Sonnet)
Data: Redis • PostgreSQL • OpenCV
Cloud & Infrastructure: AWS (EKS, RDS, S3) • Kubernetes • Docker • ArgoCD • DataDog

### SPOKEN & WRITTEN
Native Proficiency: Spanish • Cantonese
Limited Proficiency: Mandarin

## EDUCATION

### UNIVERSITY OF CALIFORNIA, IRVINE | B.S. Electrical Engineering
Specialization in Digital Signal Processing
Relevant Coursework: Data Structures & Algorithms, Machine Vision (computer vision/ML foundations), DSP Processor Lab & Design, Object-Oriented Systems & Programming
June 2018

### Deeplearning.ai
Agentic AI • Prompt Engineering • RAG Systems