Andrew Ho

github.com/anmho
andrewho.io

Education

University of California, Irvine Expected Mar. 2025
Bachelors in Computer Science *GPA 3.7*
Courses: Efficient ML Computing, NoSQL, Search Engines, Distributed Systems, Operating Systems, Databases

Skills

Languages: Go, Python, TypeScript, Java, SQL, C, C++
Tools: Kubernetes, gRPC, Docker, ArgoCD, GraphQL, Git, PySpark, PyTorch, pandas, numpy
Cloud Services/Databases: AWS, GCP, Kubernetes, Stripe, DynamoDB, Kafka, Cassandra, PostgreSQL, MySQL

Experience

Amazon Web Services | Software Development Engineer Intern Mar. 2024 - Present
Amazon FSx - Network File System *New York, NY*
- Amazon FSx. Launch, run, and scale feature-rich and highly-performant file systems with just a few clicks.

Tesla | Software Engineer Intern Sep. 2024 - Present
Design Automation Software *Palo Alto, CA*
- Developed aerodynamics tools with Go, React, Kafka, and Spark to streamline the vehicle engineering lifecycle.
- Integrated StarCCM+ CFD simulation data streams with Kafka and Spark streaming to provide real-time updates on simulation jobs, enabling faster decision-making and accelerating the engineering design loop.
- Implemented ArgoCD and Kubernetes to aid development of engineering validation tracking and shipping tools.

Snap Inc. | Backend Software Engineer Intern Jun. 2024 - Sep. 2024
Messaging Core Service *Los Angeles, CA*
- Developed new features for the Snapchat messaging core service using *Go*, *gRPC*, *DynamoDB* and *AWS*
- Built chat wallpaper feed bump and notification feature, resulting in a 1.2% increase in Snapchat+ subscriptions monitored using Grafana and Prometheus dashboards.
- Collaborated directly with Meta to create rich URL previews for *Instagram* chat links using oEmbed Graph API.

Machine Learning GPU Hardware Acceleration Reseacher Apr. 2024 – Jun. 2024
Donald Bren School of Information and Computer Science *Irvine, CA*
- Conducting efficient machine learning hardware acceleration research, under the guidance of Prof. Thomas Yeh.

Operating Systems Course Assistant Apr. 2024 – Present
Donald Bren School of Information and Computer Science *Irvine, CA*
- Led weekly office hours with operating systems coursework including concurrency, memory, and networking

NASA | Research Developer May. 2024 – Present
Lucy Mission *Los Angeles, CA*
- Prototyped rover development for Lucy space mission using C++, CUDA, and PyTorch.

Snap Inc. | Software Engineer Intern Jun. 2023 – Oct. 2023
Monetization – Ads Analytics *Los Angeles, CA*
- Designed and implemented multi-dimensional range partitioning for *Apache Druid* analytics database cluster.
- Utilized salted range indexes and *quantile sketches* to improve query speed and reduce required compute by 35%.
- Created *Apache Beam & Spark (PySpark)* pipelines to evenly distribute rows across data segments.
- Deployed *Apache Kafka* cluster using *Kubernetes* to process *80TB/day* analytics metrics stream from GCS

Projects

Push Notification Scheduler | *Go, AWS Lambda, DynamoDB, AWS Event Scheduler, AWS CDK, Expo*
- Built a serverless multi-tenant microservice for sending push notifications to app users and scheduling one-time delayed push notification execution for React-Native mobile apps.

Idempotent Ride Reservation API | *Go, Postgres, Stripe, NATS, Redis*
- Utilized idempotency keys and multi-phase transactions for safe retries and atomic commits with Stripe.
- Built a background job system with NATS to handle asynchronous event-driven tasks such as email receipts.

Distributed Key-Value Store | *Go, gRPC, Docker, Kubernetes*
- Developed multithreaded distributed key-value store cluster in *Go*, using *B trees*, *LSM trees*, and *bloom filters*
- Implemented hot-cold system using LRU eviction and compaction using Raft replication.