

# Andrew Ho

github.com/anmho  
andrewho.io

## EDUCATION

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**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

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**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

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**Tesla | Software Engineer Intern**

Sep. 2024 - Present

*Engineering 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 - Present

*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 Researcher**

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*

- Assisted students during weekly office hours with operating systems coursework including concurrency, processes, threads, 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.
- Presented preliminary mission design to full time engineers.

**Snap Inc. | Software Engineer Intern**

Sep. 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

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**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.