

Andrew Ho

github.com/anmho
andrewho.io

EDUCATION

University of California, Irvine

Expected June 2025

B.S. in Computer Science

GPA 3.66

Courses: Efficient ML Computing, NoSQL, Search Engines, Distributed Systems, Operating Systems, Databases

EXPERIENCE

NASA | MCA Developer

May. 2024 – Present

Lucy Mission

Los Angeles, CA

- Prototyped rover development for Lucy space mission using Python and PyTorch.
- Collaborated with interdisciplinary teams to advance understanding of the early solar system.

UCI Student Center | L4 Web Developer

Dec. 2022 – Present

Web Team

Irvine, CA

- Created new data analysis dashboard to assess employee performance and streamline data export to annual reports, saving *100+* employee hours during fiscal year-end using *C#, .NET, Typescript, D3.js, and SQL Server*.
- Migrated services from Windows server on AWS to Ubuntu to streamline CI/CD lifecycle.

Operating Systems Learning Assistant

Apr. 2024 – Present

Donald Bren School of Computer Science

Irvine, CA

- Assisted students with operating systems coursework including syscalls, processes, threads, memory, networking
- Held weekly office hours to assist students with assignments and concepts of operating systems

Snap Inc. | Software Engineer Intern

Sep. 2023 – Oct. 2023

Ads Analytics Platform

Los Angeles, CA

- Designed and implemented multi-dimensional range partitioning for *Apache Druid* analytics database cluster
- Created *Apache Beam & Spark (PySpark)* pipelines to evenly distribute rows across data segments
- Eliminated hot-keys with salted range indexes *quantile sketches* improve query speed, and reduce compute by **35%**
- Served analytics data through *Hasura GraphQL* proxy to *React* dashboard, reducing load times by **13%**

Snap Inc. | Software Engineer Intern

June 2023 – Sep. 2023

Metrics Stream Processing

Los Angeles, CA

- Deployed *Apache Kafka* cluster using *Kubernetes* to process *200TB/day* analytics metrics stream
- Developed real-time data warehouse ingestion into *Google Cloud Storage* using *Apache Druid* streaming ingestion
- Integrated with *Envoy* service mesh using *Go, gRPC, and Helm* saving infra costs by **24%**

PROJECTS

Map Reduce Implementation | *Go, Docker, Amazon Web Services, Kubernetes*

- Implemented a distributed MapReduce framework using Go for parallel processing of large datasets
- Driver process distributes tasks among workers and handles worker failures through RPC communication

Redis Implementation – Distributed Key-Value Store | *Go, gRPC, Docker, Kubernetes*

- Developed multithreaded distributed key-value store cluster in *Go*, using *Raft, LSM trees*, and bloom filters
- Implemented hot-cold system using LRU eviction and compaction.

Web Search Engine | *Python, Go, React, Redis, Docker, React*

- Created a search engine that parses 55,000+ pages, returning high relevance results within 300ms using PageRank

TECHNICAL SKILLS & AWARDS

Languages: Go, Python, Java, TypeScript, Scala, HTML, CSS, SQL, R, C, C++

Tools/Frameworks: AWS, Google Cloud, Docker, gRPC, GraphQL, React, Flask, Django, Kafka, PostgreSQL, MySQL, Git, MongoDB, Cassandra, Spark, Stripe, PyTorch, pandas, numpy