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

Student Subleasing Marketplace | *Go, React, Stripe, AWS*

- Built student platform to find subleases and roommates to using React, Go, and CockroachDB
- Implemented automated payment processing using Stripe Connect to improve user experience and security.

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.

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