Andrew Ho

github.com/anmho
andrewho.io

Education

University of California, Irvine Expected June 2025
B.S. in Computer Science, Minor in Statistics ***GPA 3.83***
Coursework: Relational Databases, NoSQL, Algorithms, Search Engines, Distributed Systems, Operating Systems

Experience

Software Engineer Intern Sep. 2023 – Oct. 2023
Snap Inc. *Los Angeles, CA*
- Designed and implemented multi-dimensional range partitioning for *Apache Druid* analytics database cluster.
- Created *Apache Beam & Spark* pipelines to evenly distribute rows across data segments using *quantile sketches* and salted range indexes to remove hot-keys and improve query speed and compute costs by **35%**..
- Served analytics data through *Hasura GraphQL* proxy to *React* dashboard, reducing load times by **50%**.

Learning Assistant | Operating Systems Apr. 2024 – Present
University of California, Irvine *Irvine, CA*
- Taught **250+** students about syscalls, processes, threads, virtual memory, scheduling, networking, and synchronization in *ICS 53 Principles of Operating Systems*
- Held weekly office hours to assist students with debugging, assignments, and conceptual understanding of operating systems principles

Software Engineer Intern June 2023 – Sep. 2023
Snap Inc. *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%**.

L4 Software Engineer Dec. 2022 – Present
UCI Student Center & Event Services *Irvine, CA*
- Build and deploy employee management tools such as *LevelUp* (performance review platform), event booking, and reservation services to streamline event planning procedures.
- Spearheaded a data exploration tool 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*.

Research Developer June 2020
Stanford University *Palo Alto, CA*
- Collaborated in team of four engineers and designers to deliver pandemic simulation tool using Javascript
- Explored stochastic Brownian motion agent-based models to simulate the spread of Covid-19 and discover social distancing strategies.

Projects

Linux Shell | *C, gcc, Docker, Ubuntu, bash*
- Created a Linux shell with built-in commands such as cd, ls, mkdir, rm, grep, history, piping, and redirection
- Supports infinite piping, background processes, graceful shutdown, and signal handling.

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

Multithreaded Course Registration Web Server | *C, TCP, Unix Sockets, Network Programming*
- Created a multithreaded *C* web server using pthreads and locks to handle concurrent registration requests.
- Implemented max thread pool size to prevent server from being overloaded while maintaining high throughput.

Technical Skills & Awards

Languages: Go, Python, Java, TypeScript, Scala, HTML, CSS, SQL, R, C, C++
Tools/Frameworks: Spring Boot, Express, React, Kubernetes, Docker, gRPC, GraphQL, AWS, Google Cloud, Flask, Django, PostgreSQL, MySQL, Node, Git, MongoDB, Cassandra, DynamoDB, Spark, Stripe, PyTorch, pandas, numpy