Andrew Ho

github.com/anmho
andrewho.io

Education

University of California, Irvine Expected June 2025
B.S. in Computer Science, Minor in Statistics ***GPA 3.87***
Coursework: Relational Databases, NoSQL, Algorithms, Search Engines, Distributed Systems, Operating Systems

Experience

Snap Inc. | Ads Analytics Backend Sep. 2023 – Oct. 2023
Software Engineer Intern *Santa Monica, CA*

- Utilized **Java**, **Beam, & Spark** to implement optimized multi-dimensional range partitioning algorithm using **quantile sketches** for **35%** improvement in query performance and cost reduction
- Scheduled jobs using **Apache Airflow** to synchronize massive amounts of data with Maven, and **Helm** charts
- Maximized **concurrency** and rollup ensuring evenly distributed hot-key across worker nodes.

Snap Inc. | Stream Data Processing Infra June 2023 – Sep. 2023
Software Engineer Intern *Santa Monica, CA*

- Used **Java** to orchestrate **Apache Kafka** cluster with **Kubernetes** to support streaming ingestion for **Google Cloud Storage**, using **Apache Druid** on **Compute Engine** clusters processing **200TB** data stream each day
- Developed streaming ingestion for big data visualization platform for Snap ranking and engagement ML models
- Spearheaded service mesh integration with **Confluent** Platform, **gRPC**, **Golang** - projected cost savings 31%

University of California, Irvine | Employee Management Tools Dec. 2022 – June 2023
Software Developer *Irvine, CA*

- Utilized **C#, ASP.NET, AWS EC2, Jenkins, and SQL Server** to build employee management suite, student employee scheduling, and event booking services.
- Created a data exploration tool to assess employee performance and streamline data export to annual reports, saving 100+ employee hours during fiscal year-end.
- Updated event booking service waiver tools to unify schoolwide event planning, accelerating event planning by 20%

ICS Student Council Nov 2023 – Present
Software Developer *Irvine, CA*

- Implemented serverless microservice architecture with **AWS Lambda**, **API Gateway**, **Node.js**, and **DynamoDB** to power popular academic tools with 20000+ active users of ***Zotistics, AntAlmanac, Zotmeal***

Projects

Web Search Engine | *Python, Go, React, CockroachDB/PostgresSQL, Redis, Docker, React*

- Created a search engine that parses 55,000+ pages, returning high relevance results within 300ms using PageRank
- Implemented multithreaded web crawler, index sharding (Go), and caching search results in **Redis** to fast queries
- Utilized OpenAI GPT-4 API to generate page summaries for search results shown on **React** frontend.

Multithreaded Distributed Key-Value Store | *Go, gRPC, Docker, Kubernetes*

- Developed a highly performant, distributed key-value store in **Go** with multithreading support, using the **Raft** consensus algorithm for fault tolerance and replication, with support for dynamic node scaling
- Designed hot-cold tier lookup system to optimize resource consumption using LRU eviction to persistent claims

Movie Recommendation Engine | *Java, Python, Spring Boot, PostgreSQL, Spark, gRPC, Kubernetes*

- Built **Spring Boot** and **FastAPI** AI movie recommendations micro-services with **Google Kubernetes Engine**
- Trained collaborative filtering ML ranking model on MovieLens **2.5m** dataset using **PyTorch** and distributed training for rapid model updates with **Spark**

Technical Skills/Awards

Languages: Python, Go , Java, TypeScript, JavaScript, Scala, HTML, CSS, SQL, R, C, C++, Lisp
Frameworks: Spring Boot, Flask, Django, Kubernetes, Docker, gRPC, GraphQL, AWS, Google Cloud, React, PostgreSQL, MySQL, Node, Git, MongoDB, Cassandra, DynamoDB, Spark, Stripe, PyTorch, pandas, numpy, Websocket
Awards: Winner of **Stanford**'s health{hacks} 2021 hackathon out of **178** participants. Presented a stochastic agent-based machine learning pandemic simulation tool built over 24 hours to a panel of **9** Ivy League judges.