

Eric Kim

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EDUCATION

Rice University

GPA: 3.86

Bachelor of Science in Computer Science

May 2028

- **Coursework:** Data Structures & Algorithms, Objected-Oriented Programming, Computer Systems, Programming Languages, Computer Organization, Linear Algebra, Probability & Statistics

EXPERIENCE

eBay

May 2026 – August 2026

Software Engineer Intern

San Jose, CA

- Joining Cloud Platform team to build Kubernetes CRDs, custom controllers, and operators in Go.

Air Alliance Houston

August 2025 – Present

Software Engineer

Houston, TX

- Architected real-time pollution pipeline in Python, cutting sensor-to-dashboard latency from **5min** to **sub-30s**.
- Engineered partitioned PostgreSQL schema with composite indexes for **200K+** reads/day at **sub-100ms** p95.
- Introduced Redis caching with query batching, cutting dashboard load times by **60%** across **3K+** concurrent users
- Built forecasting pipeline with daily retraining, replacing manual threshold alerts with **96%** accurate predictions.

UT Austin Oden Institute

May 2025 – August 2025

Software Engineer Intern

Austin, TX

- Parallelized CI/CD pipeline across **8** environments, cutting build-and-test cycles from **10** hours to **6** hours.
- Developed fault-tolerant robotic control system with watchdog monitoring and failover, achieving **99.9%** uptime.
- Built thread-safe sensor pipeline with concurrent producers and mutex-guarded state, cutting data loss to **<0.1%**.
- Scaled distributed training to **8** GPUs via PyTorch DDP, achieving near-linear **8x** throughput improvement.

Scholarhive

October 2024 – January 2025

Founding Engineer

Houston, TX

- Scaled edtech platform to **5.5K+** users and **\$500K** in scholarship matches; selected for **YC W25 interview**.
- Reduced API p95 latency **85%** (**800ms** to **120ms**) via targeted SQL indexes and Redis caching on AWS.
- Developed ML scholarship matching system with **94%** precision, integrating **10+** data sources via automated ETL
- Increased apply rate **30%** by shipping Next.js discovery UI with server-side filtering and match rankings.

PROJECTS

GoCache | *Go, RESP Protocol, Docker, Prometheus, TCP/Networking*

github.com/erickim73/gocache

- Built distributed cache achieving **<1ms p99** latency at **50K+** RPS using LRU eviction and TTL expiration.
- Engineered crash-recovery system with write-ahead logging, improving throughput **5.4x** via async I/O.
- Implemented Raft-inspired leader election with automatic failover, promoting replicas within **5s** of node failure.
- Enabled near-linear horizontal scaling via consistent hashing, achieving **3.9x** throughput on **4** nodes.

OwlConnect | *LangChain, FastAPI, MongoDB, WebSockets*

devpost.com/software/owlconnect

- Won **2nd place** at [HackRice 15](#) (**500+** participants) building AI mentor-matching platform for Rice students.
- Built FastAPI backend with MongoDB aggregation pipelines and text indexing for **sub-200ms** profile search.
- Streamed real-time mentor recommendations via WebSocket + LangChain agents with **sub-2s** response times.

TECHNICAL SKILLS

Programming Languages: Go, Python, TypeScript, JavaScript, Java, C++, SQL, C

Frameworks: React, Next.js, Node.js, FastAPI, Flask, Django

Infrastructure: Kubernetes, Docker, AWS, GCP, PostgreSQL, Redis, MongoDB, Prometheus

AI/ML: PyTorch, NumPy, Pandas, Scikit-learn, LangChain, Hugging Face