Eugene Cho

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Education

University of California, Davis Expected Jun. 2026
B.S. in Computer Science

Experiences

Kaiser Permanente Jun. 2025 – Dec. 2025
Software Engineer Intern *Remote*

- Built and optimized event-driven backend services in **Spring**, **Koa**, and **Kafka** to power an NLP-guided pre-appointment survey and smart triage system, streaming and processing over **500K** monthly unique sessions across patient intake workflows
- Led the end-to-end implementation of a School Note decisioning feature, introducing **SOAP(XML)**-based scaffold integration and employing a config-driven release agent pattern to improve scalability, observability, and long-term maintainability
- Resolved a **Redis** cache miss pattern in patient evisit lookup by introducing time-bucketed cache keys and negative caching with TTLs, reducing external API calls by over **99%** and cutting median latency by **95%**

AggieWorks Oct. 2024 – Present
Software Engineer *Davis, CA*

- Built daviscattlelog.com, a full-stack course/professor insights platform with **React**, **FastAPI**, and **PostgreSQL** to help UC Davis students plan schedules and compare instructors, reaching over **20K** unique users and **3.2K+** monthly active users
- Refactored search API endpoints to return lightweight course IDs with vector embeddings and fuzzy matching, achieving **4×** faster retrieval by eliminating expensive data aggregation and reducing response payloads by **90%.**
- Optimized frontend rendering with virtualization and backend performance with **redis caching** and **threadpool offloading**, cutting API latency by **90%** and redundant traffic by **99%**, improving site uptime from **88%** to **99.9%**

PNA Bio Inc. Sep. 2024 – Jan. 2025
Software Engineer Intern *Thousand Oaks, CA*

- Designed, implemented, and deployed bioinformatics web tools *PNA Tool* and *PNA Designer* on pnabio.com, exposing customer-facing workflows for molecular sequence analysis and computational design tools used by **1.5K+** monthly visitors
- Engineered the backend and data-processing pipeline in **PHP**, **Python**, **CGI Scripts**, and **HTML/CSS** for robust input validation and algorithmic processing, automating internal scientific design workflows and cutting manual processing time by **90%**

Seoul National University Medical School Jun. 2024 – Sep. 2024
Data Science Intern *Seoul, Korea*

- Developed high-performance Python data pipelines processing **10M+** records using **Pandas**, **NumPy**, and **SciPy**, implementing data normalization and aggregation algorithms that improved query performance by **60%** for large-scale analytical workloads
- Implemented Python scripts for advanced data filtering and visualization, processing genomic datasets to generate interactive heatmaps and frequency analyses, supporting research workflows for **9+** computational studies

Projects

CollabRoomAI | *SvelteKit, Typescript, TailwindCSS, Go (Fiber), WebSockets, OpenAI API* Nov. 2025

- Developed a real-time collaborative chat application with integrated AI agents using **Go/Fiber** backend and **SvelteKit** frontend, leveraging **WebSockets** for bidirectional messaging, supporting up to **500** concurrent users with **sub-50ms** latency
- Integrated **OpenAI API** to deploy multiple AI agents with distinct system prompts and configurable model selection, enabling automated real-time conversation analysis, summarization, and contextual responses within chat rooms
- Built a responsive chat UI with **Svelte 5**, **TypeScript**, and **Tailwind**, using custom reactive stores for room and user state and reusable components for chat and AI agent flows; delivered **40%** faster loads and **60%** component reuse across **5+** features

HangulStudy | *React, TailwindCSS, Hangul, Sqlite3, Express.js* Sep. 2024

- Created an interactive Korean language learning platform with **React**, **Express.js**, and **SQLite**, featuring level-based practice sets (**100+** vocabulary words), a virtual Hangul keyboard, and a real-time scoring system to help users build Korean proficiency
- Wrote **RESTful API** endpoints to enable dynamic delivery across multiple difficulty tiers, serving **20+** students learning Korean

Technical Skills

Languages: Python, Go, Java, C/C++, C#, Kotlin, SQL, JavaScript, TypeScript, PHP, HTML/CSS, R
Frameworks & Libraries: React.js, Next.js, Node.js, Express.js, Svelte, SvelteKit, FastAPI, Flask, Fiber, Koa, Django, Spring, Spring Boot
Data, Messaging, & Cloud: PostgreSQL, SQLite, MySQL, Oracle Database, Redis, Kafka, DigitalOcean, Oracle Cloud, Kubernetes
Developer Tools: Git, GitHub Actions, Docker, Linux/Unix, Bash, PostHog, Lens, Splunk, Dynatrace, Jenkins, Jest, Jtest, LaTeX
Methodologies: Scrum/Agile, Waterfall, Circular Development, DevOps, CI/CD, Object-Oriented Design, Unit Testing, Code Review
Awards: Eagle Scout Award, ACSL Intermediate Division Finalist, Ventura County Fire Department Citizen Award