EUGENE CHO

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EDUCATION

University of California, Davis   Sep. 2022 – Jun. 2026
B.S. in Computer Science

EXPERIENCES

Kaiser Permanente   Jun. 2025 – Present
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**-based scaffold integration and employing a config-driven release agent pattern to improve scalability, observability, and long-term maintainability
- Diagnosed and resolved a **redis** cache miss pattern in evisit retrieval, reducing external API calls by over **99%**

Aggieworks   Aug. 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 endpoints with partial matching, filtering, and indexed lookups, improving retrieval speed by over **4×**
- 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 PNA sequence analysis and probe design used by **1.5K+** monthly visitors
- Engineered the backend and data-processing pipeline in **PHP**, **Python**, **CGI**, **HTML/CSS**, and **shell scripts** for robust input validation and sequence scoring, automating internal PNA and CRISPR donor design workflows into a self-service tool

Seoul National University Medical School   Jun. 2024 – Sep. 2024
Data Science Intern   *Seoul, Korea*
- Developed Python data pipelines for over **10M** clinical and somatic mutation records using **Pandas**, **NumPy**, and **SciPy**, normalizing and aggregating datasets for high-throughput oncology cohort analyses and downstream statistical modeling
- Implemented variant-filtering and visualization scripts in Python to compute allele frequencies and generate oncoprint-style heatmaps for cancer clonal model studies under Professor Kim Jong Il at the Genomic Medicine Institute

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 framework) backend and **SvelteKit** frontend, implementing **WebSocket**-based bidirectional communication for instant message delivery
- 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 frontend interface with **Svelte 5**, **TypeScript**, and **Tailwind CSS**, using custom reactive stores for room and user state and a reusable component architecture for chat timelines, message input, and AI agent interactions

Korean Quiz | *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 (40+ vocabulary words), a virtual Hangul keyboard, and a real-time scoring system to help users build Korean proficiency
- Built **RESTful API** endpoints backed by **SQLite** to enable dynamic delivery of words across multiple difficulty tiers

TECHNICAL SKILLS

Languages: Python, Go, Java, C/C++, C#, Kotlin, SQL, JavaScript, TypeScript, PHP, HTML/CSS, R
Frameworks & Libraries: React.js, Next.js, Svelte, SvelteKit, Express.js, 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