

# Eugene Cho

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## EDUCATION

**University of California, Davis**  
*Bachelor of Science in Computer Science*

Sep. 2022 – Jun. 2026

## EXPERIENCES

**Kaiser Permanente**

Jun. 2025 – Present

*Software Engineer Intern*

Remote

- Built and optimized backend services in Spring and Koa powering a NLP guided pre-visit survey system, scaling to over **500K** monthly sessions
- Led implementation of a School Note decisioning feature, introducing SOAP-based scaffold integration and employing a config-driven release agent pattern for scalability and maintainability
- Diagnosed and resolved a redis cache miss pattern in evisit retrieval, reducing external API calls by **99%**

**PNA Bio Inc.**

Sep. 2024 – Jan. 2025

*Software Engineer Intern*

Thousand Oaks, CA

- Developed and deployed web tools PNA Tool and PNA Designer on [pnabio.com](https://pnabio.com), exposing customer-facing endpoints for PNA sequence analysis and probe design
- Built a modular PHP-Python pipeline (CGI, HTML/CSS, shell scripts) for input validation and sequence scoring to automate internal PNA/CRISPR donor design workflows

**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 oncology analyses
- Implemented variant-filtering and visualization scripts to compute allele frequencies and generate oncoprint-style heatmaps for cancer clonal model studies under Prof. Kim Jong Il at the Genomic Medicine Institute

## PROJECTS

**Cattlelog** | *React, TailwindCSS, FastAPI, Redis, PostgreSQL*

Sep. 2024 – Present

- Built a full-stack course/professor insights platform with React, FastAPI, and PostgreSQL, 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 **4x**
- Optimized frontend rendering with react-virtual 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%**

**Korean Quiz** | *React, Hangul, SQLite3, Express.js*

Sep. 2024

- Developed a full-stack web application with React and ExpressJS to test Korean vocabulary and spelling, utilizing SQLite3 for database management

## TECHNICAL SKILLS

**Languages:** Python, C/C++, C#, Kotlin, SQL, Go, Java, JavaScript, TypeScript, HTML/CSS, R

**Frameworks:** React.js, Next.js, Express.js, FastAPI, Flask, TailwindCSS, Django

**Database and Cloud:** PostgreSQL, SQLite, MySQL, DigitalOcean, Oracle Cloud, Oracle Database, Kubernetes

**Developer Tools:** Git, Github Actions, Docker, Bash, Posthog, Lens, Splunk, Dynatrace, Jenkins, Jest, Jtest

**Methodologies:** Scrum/Agile, Waterfall, Circular Development, DevOps

## ADDITIONAL

**Relevant Coursework:** Data Structures and Algorithms, Algorithm Design and Analysis, Computer Architecture, Operating Systems, Distributed Ledgers, Databases, Bioinformatics

**Awards:** Eagle Scout Award, ACSL Intermediate Division Finalist, Ventura County Fire Department Citizen Award