

# Chaewon Kim

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## SKILLS

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<b>Programming Languages</b>	Javascript   Typescript   Python   C++   C   HTML/CSS
<b>Technologies and Tools</b>	React   Node.js   Redux   Express   Vite   FastAPI   MongoDB   NoSQL   OOP   websocket   Git   Bootstrap   Figma   Unit Testing   Integration Testing   Jest   Vitest   E2E Testing   Cypress   Playwright   CI/CD   Github Actions   Cloud Computing   Google Cloud   Digital Ocean   WordPress   MySQL   Docker   Postman   RESTful APIs   AI   BigQuery   Elasticsearch   CORS
<b>Languages</b>	Korean (Native)   English (Professional)

## TEAM PROJECTS

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### YVR Traffic

Oct 2023 - May 2024

*Frontend Developer*

- Collaborated on a website for BC residents showing live traffic conditions using highway cameras and geolocation.
- Integrated **Google Maps API** via **Google Cloud** to display the user's real-time location with a dynamic blue position marker.
- Collaborated closely with backend developers to integrate frontend features with real-time location data, enabling geolocation tracking and route rendering via Google Maps API.

### Smart Diagnosis (Figma Design Project)

Sep 2024 - Dec 2024

*Team Leader*

- Led a UI/UX design team to prototype a smart healthcare app for self-diagnosis, medication suggestions, and appointments.
- Managed task distribution, timeline planning, and led final project presentation.
- Applied **User-Centered Design** and **iterative design process**, including research, multiple prototype-feedback loops, and final UI refinement.
- Created high-fidelity mockups and user flows using **Figma**.

## OPEN SOURCE CONTRIBUTIONS

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### freeCodeCamp

*Contributor*

- Opened a pull request to fix the draw-checking logic in the Tic-Tac-Toe lab.
- Improved test reliability by refining DOM-based assertions to detect tie conditions.

### public-apis

*Contributor*

- Opened a pull request to remove a broken link in the README.
- Followed contribution guidelines and ensured link integrity for community users.

## PERSONAL PROJECTS

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### PawBondAI (Hackathon - AI Accelerate: Unlocking New Frontiers)

*Full Stack Developer*

- Developed an AI-powered dog adoption matching platform using **React (TypeScript, Vite)** for frontend and **FastAPI (Python)** for backend.
- Implemented **RAG** system using **Elasticsearch** with semantic text fields and **Google Vertex AI** inference endpoints for embeddings, building **hybrid queries** that combine vector similarity with structured filters across 4 core indices.
- Integrated **BigQuery** for data warehousing, **SQL** analytics on adoption outcomes, and **BigQuery ML** logistic regression model for outcome predictions with confidence scoring.
- Deployed backend on **Google Cloud Run** with **Docker** containerization, and frontend on **Netlify**.
- Secured API communication using **CORS** configuration, **Pydantic** validation, and **Google Cloud Storage** for chat history persistence with session management.
- Created **RESTful API** with FastAPI supporting **CRUD** operations, bulk CSV uploads, predictive analytics, and multilingual document processing.
- Designed responsive UI with **TailwindCSS** and **shadcn/ui** components, implementing **TanStack Query** for efficient data fetching and state management.

## PERSONAL PROJECTS

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### Real-Time Collaborative Notes App

*Full Stack Developer*

- Developed a multi-user real-time notes web application with collaborative editing **React (Vite)** for frontend and **Node.js/Express** for backend.
- Deployed backend on a **DigitalOcean** Droplet with **NGINX** reverse proxy, **PM2** for process management, **HTTPS** via Let's Encrypt, and frontend on Vercel with custom domain.
- Used TipTap, Yjs, and Hocuspocus server(**Websocket**) to manage presence indicators and **Socket.IO** for real-time note updates.
- Built and managed backend services with **Node.js**, **Express**, **JWT authentication**, and **MongoDB (Mongoose)** for storing notes and shared access roles.
- Managed client-side state using **Redux Toolkit**, and implemented responsive UI with **Bootstrap** and custom **CSS**.
- Wrote and maintained automated tests using **Vitest**, **Cypress**, and **Playwright** to ensure reliability across core flows and browsers
- Set up **CI/CD** pipelines using **GitHub Actions** for automated testing and deployment.

### AI Chat App

*Full Stack Developer*

- Developed a conversational AI website using **React (Vite)** for frontend and **Node.js/Express** for backend, integrating **OpenAI's GPT-3.5 Turbo API** for context-aware responses.
- Deployed backend on a **DigitalOcean** Droplet with **NGINX** reverse proxy, **PM2** for process management, **HTTPS** via Let's Encrypt, and frontend on Vercel with custom domain.
- Secured API communication using **Axios**, **CORS** configuration, and environment-based **.env** management for backend and frontend.
- Designed a responsive **Bootstrap**-based UI with **React Markdown**, smooth **CSS** transitions, and real-time message rendering.
- Set up **CI/CD** pipelines using **GitHub Actions** for automated testing and deployment.

### Portfolio Website

*Cloud DevOps, Web Developer*

- Deployed a custom **WordPress** portfolio on a **DigitalOcean** Kubernetes Cluster, using **PVCs** for **MySQL** and content persistence.
- Wrote **Kubernetes** configuration files (*manifest.yaml*) to automate **HTTPS** setup with cert-manager and Let's Encrypt using a ClusterIssuer.
- Configured **NGINX** Ingress Controller with Ingress rules to expose WordPress at *www.chaewon.ca*, securing traffic over **HTTPS**.
- Managed DNS on **DigitalOcean** with A record routing, and customized **WordPress Plugin** with **PHP**, **Javascript**, and **CSS** to add dark mode, responsive UI, and dynamic resume sections.

### C++ SDL2 Game Projects

*Developer*

- Built classic games like Pong and Snake using **C++** and **SDL2**, focusing on game loop design, rendering, and user input.
- Applied **object-oriented principles** for modular game structure (Game Engine, Player, Ball, etc.).
- Integrated basic sound effects and scorekeeping, and packaged builds for macOS.

## EDUCATION

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### Diploma in Computer Science

*Douglas College*

Studies began in Associate of Science program (2020–2022), transitioned to Diploma in Computer Science major

Sep 2020 - Feb 2025  
New Westminster, Canada