Dongwan Seoh

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TECHNICAL SKILLS

Languages: Python, C/C++, R, SQL, Java, TypeScript & JavaScript, HTML & CSS
Frameworks and Libraries: PyTorch, FastAPI, Flask, React.js, React Native, Next.js, Svelte, SvelteKit, Tailwind CSS
Developer Tools: Git, GitHub, VS Code, Linux, MongoDB, Supabase, Vercel, Docker, Azure, GCP, Figma

EXPERIENCE

Software Engineer   Oct 2025 – Current
Nebula — AI-Powered Note-Taking Mobile App | 🔗 🍎   *Waterloo, ON*
- Built a full-stack mobile app with **React Native**, **FastAPI**, and **PostgreSQL** with agile dev. in a team of 4.
- Configured robust **OCR** and **AI summary** features with **Gemini & OpenAI APIs** with **KaTeX** rendering.
- Enabled **semantic search** on **1,536-dim embeddings**, cutting retrieval time **40%** by **IVFFlat indexing**.
- Integrated **secure authentication** with **Supabase Auth** and **JWTs**, enforcing **RLS** across **3 tables.**
- Orchestrated the containerization of backend using **Docker**, deploying to **Google Cloud Run** with automated **CI/CD** pipelines to ensure rapid, reliable deployments and horizontal scalability; released to Apple's **TestFlight**.

Software Engineer   Oct 2025 – Current
UW Orbital — Satellite Mission Design Team   *Waterloo, ON*
- Developed MCC admin interfaces in **React**, including user management tables using **TanStack Table**.
- Implemented **REST API endpoints** to retrieve **ARO requests** for MCC consumption, defining data contracts.
- Authored **unit and integration tests**, achieving **100% test coverage** for UI components from MCC & ARO.

PROJECTS

Quota — Real-time Financial Intelligence For Codebase | 🔗   🏆 DeltaHacks12 First Place
- Developed **Quota**, a **VS Code extension** and **web sandbox** for devs to reduce API spend by up to **40%**.
- Built extension with **TypeScript** providing **inline cost annotations**, heatmaps, and **one-click optimizations**.
- Indexed codebases **<3s**, **45x faster** than AI IDEs, using **AST parsing** to detect inefficiencies in design choice.
- Designed **React Flow** sandbox for budget- & scale-aware planning with **RAG Gemini** chatbot by **LangChain**.

Personal CRM — Manage Personal & Professional Relationships | 🔗
- Built a robust full-stack CRM with **Next.js** and **FastAPI** to streamline professional relationship management.
- Implemented **30+ RESTful APIs** with secure CRUD operations, pagination, and dynamic data fetching.
- Designed a **normalized PostgreSQL schema (5+ tables**, junction relationships) with **database indexing**, **Pydantic** validation, and **parameterized queries**, improving query performance and preventing SQL injection.
- Reduced API calls by **60%** by optimizing backend performance with **caching** and **SlowAPI** rate limiting.
- Implemented **matrix-based importance scoring** to rank contacts and prioritize key relationships efficiently.

Discord Utilities Bot — For Moderation & Fun Commands | ▰
- Scaled to **50+** global servers by developing **100+** unique commands with **asyncio, requests, and JSON**.
- Built with **discord.py** & **Replit DB** to store and update unique user information for currency and inventory.

EXTRACURRICULAR INVOLVEMENT

Sponsorship Director, Head of Finance   Dec 2024 – Current
Ignition Hacks | 🔗   *Toronto, ON*
- Expanded event participation to **260 attendees** by helping coordinate the execution of Ignition Hacks v.6.
- Raised **$10,000** in sponsorships from Siemens, UWaterloo, Best Buy, CPA Ontario, ... by forming partnerships.

AWARDS

2025 & 2024 Euclid Math Contest   Top **7.6%** among all contestants

2025 STEM Fellowship Big Data Challenge Finalist
*Published **academic research paper:** Literary Factors Analysis (DOI #: 10.17975/sfj-2025-001).*

EDUCATION

University of Waterloo   Sep 2025 – Current
Bachelor of Software Engineering, Honours (2 scholarships awarded) | Hackathon Winner x3   ***4.0/4.0 GPA***