

# Dongwan (Jamie) Seoh

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## EDUCATION

<b>University of Waterloo</b> <i>Bachelor of Software Engineering</i>	Sep 2025 – Present
• Sponsorship Director @Ignition Hacks, Funding Council @MEF, Event Coordinator @Korean Student Association	<b>4.0/4.0 GPA</b>

## TECHNICAL SKILLS

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

## EXPERIENCE

<b>Full Stack Developer</b> <i>Nebula AI</i>	Nov 2025 – Jan 2026
• Developed a full-stack AI note-taking mobile app with <b>React Native</b> , <b>FastAPI</b> , and <b>PostgreSQL</b> . • Implemented an <b>OCR+AI pipeline</b> with Gemini/OpenAI, enabling handwritten text extraction and summaries. • Enabled semantic search over <b>1,536-dim embeddings</b> , cutting retrieval time by <b>40%</b> with IVFFlat indexing. • Designed multi-tenant data access using Supabase Auth, JWTs, and RLS policies across 3+ relational tables. • Orchestrated the containerization of backend using <b>Docker</b> and deployed to <b>Google Cloud Run</b> . • Automated <b>CI/CD</b> pipelines for rapid, reliable deployments and horizontal scalability to Apple's TestFlight.	<i>Waterloo, ON</i>
<b>Software Developer</b> <i>UW Orbital Satellite Mission Design Team</i>	Sep 2025 – Nov 2025
• Built Mission Control Center dashboards in <b>React</b> to improve visibility into satellite telemetry and mission state. • Implemented <b>REST APIs</b> to serve async requests to MCC, standardizing data contracts between subsystems. • Authored unit and integration tests, achieving <b>95% UI coverage</b> with <b>vitest</b> for Mission Control Center.	<i>Waterloo, ON</i>
<b>Web Development Intern</b> <i>PNPT Co., Ltd.</i>	Jul. 2023 – Aug 2023
• Collaborated on early-stage website optimization for a startup, enhancing usability and brand presentation. • Prototyped responsive UI designs using <b>Figma</b> & <b>React</b> , accelerating design iterations and stakeholder feedback. • Debugged and resolved cross-browser compatibility issues, ensuring consistent UI rendering across browsers.	<i>Gangnam District, Seoul</i>

## PROJECTS

<b>Quota</b> — DeltaHacks12 First Place    <i>TypeScript, Next.js, React Flow, Gemini, LangChain, MongoDB</i>	
• Engineered a developer tool providing real-time API cost insights, helping startups cut API spend by up to 40%. • Built VS Code extension with <b>TypeScript</b> for inline cost annotations, heatmaps, and one-click optimizations. • Indexed codebases <b>&lt;3s, 45x faster</b> than AI IDEs, using <b>AST parsing</b> to detect inefficiencies in design choices. • Created <b>React Flow</b> sandbox for budget-aware system planning with <b>RAG Gemini</b> chatbot by LangChain.	
<b>Personal CRM</b> — Manage Professional Relationships    <i>Next.js, FastAPI, PostgreSQL, TailwindCSS</i>	
• Built a robust full-stack CRM to centralize and prioritize personal & professional relationships at scale. • Architected backend with <b>20+ REST</b> endpoints, enabling pagination & dynamic fetching for growing datasets. • Improved system reliability through caching layers and rate limiting, reducing server load by <b>30%</b> . • Designed a <b>matrix-based algorithm</b> to rank contacts, enabling users to focus on high-value relationships.	
<b>Melodie.ai</b> — Thematic Music Generation    <i>PyTorch, NumPy, Python, Music21</i>	
• Developed an <b>LSTM</b> -based neural network with <b>PyTorch</b> to generate folk melodies, reaching coherent sequences. • Preprocessed MIDI data by standardizing keys and normalizing sequences for simpler, faster training. • Designed <b>probabilistic sampling system</b> with temp. control and nucleus sampling methods, enabling variation.	

## AWARDS

<b>2025 &amp; 2024 Euclid Math Contest</b>	Top <b>7.6%</b> among all contestants
<b>2025 STEM Fellowship Big Data Challenge Finalist</b> <i>Published academic paper: "Literary Factors Analysis" (DOI #: 10.17975/sfj-2025-001).</i>	