

Dayeon Shin

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EDUCATION

Korea University

M.S. in Mathematics (Mathematical Data Science Track), GPA: 4.08/4.5

Hankuk University of Foreign Studies

B.S. in Environmental Science, GPA: 3.64/4.5

Seoul, Republic of Korea

Mar. 2025 – Present

Yongin, Republic of Korea

Feb. 2017 – Jul. 2021

PUBLICATIONS

CyDRA: Diagnosis-Guided Zero-Shot Prompting for T2C Generation

May 2026

*Dayeon Shin**, Donghun Lee

ICML 2026 Workshop

- Developed a diagnostic rule-alignment framework for improving LLM-generated Cypher query reliability
- Designed an 11-category structural error taxonomy for systematic Text-to-Cypher failure analysis
- Benchmarked CyDRA across five large language models for Text-to-Cypher generation
- Achieved an average of 8.92% improvement in execution accuracy via diagnosis-guided prompting

Dynamic Spatial Audio Generation

Sep. 2025

*Jaehyuk Lee**, *Yeajin Lee**, *Dayeon Shin*, *Jaheun Jung*, *Donghun Lee*

ICASSP Submission (Preprint)

- Implemented evaluation metrics for spatial audio generation quality
- Designed experiments and analyzed model performance

Agent-based Instructional Support Chatbot

Jul. 2025

*Dayeon Shin**, *Donghun Lee*

KCC 2025

- Designed and implemented an LLM-based educational support chatbot

Code to Reason in Math is Still Hard for Well-known LLMs

Jun. 2025

*Suhyun Bae**, *Dayeon Shin*, *Donghun Lee*

Preprint

- Analyzed LLM failures in mathematical auto-formalization tasks
- Improved prompting strategies through systematic error analysis
- Visualized evaluation results and contributed to manuscript preparation

EXPERIENCE

SW Programming Teaching Assistant

Mar. 2025 – Aug. 2026

Korea University

Seoul, Republic of Korea

- Assisted in teaching and grading programming assignments

Machine Learning Intern

Nov. 2025 – Feb. 2026

MakinaRocks

Gangnam-gu, Seoul, Republic of Korea

- Developed LLM-based AI systems for enterprise automation and knowledge management
- Built an enterprise RAG chatbot with OCR-based document ingestion and source-grounded responses
- Implemented LangGraph-based multi-agent workflows for ontology-driven supply chain automation
- Improved Text-to-Cypher query generation through prompt engineering and evaluation frameworks

Math Instructor

Jul. 2021 – Dec. 2023

Jeungssam Math Academy

Hanam, Gyeonggi-do, Republic of Korea

- Designed personalized mathematics curricula based on student performance analysis
- Managed data-driven assessments and provided continuous learning feedback

PROJECTS

Real-time Lecture Audio Quiz Agent System | *FastAPI, Redis, Supabase, LangGraph*

Apr. 2026

- Developed a real-time lecture audio-based quiz generation pipeline
- Implemented real-time audio ingestion pipeline using FastAPI, including STT processing and Supabase storage integration
- Integrated Redis as a message queue to manage asynchronous task distribution across agents
- Automated quiz delivery and reporting through multi-agent orchestration using LangGraph

Agent-based Instructional Support Chatbot | *Python, LangGraph, PostgreSQL, Zulip API* Apr. 2025 – May 2025

- Developed a Zulip-based LLM chatbot automating attendance, grade inquiry, and course management for up to 300 concurrent users
- Designed randomized per-student attendance scheduling via Zulip DM to prevent proxy attendance
- Implemented tool-calling agent workflows using LangGraph and GPT-4o with context-aware multi-turn conversation
- Achieved average response latency under 3 seconds in a live classroom environment with PostgreSQL-backed data management

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, SQL

Frontend: HTML, CSS, Bootstrap

Frameworks & Libraries: LangChain, LangGraph, FastAPI, PyTorch, Pandas

Tools: Git, Docker, PostgreSQL, GraphDB

CERTIFICATIONS

AI / Data: Big Data Analysis Engineer, ADSP, Engineer Information Processing

Other: Certified Industrial Safety Engineer, Water Quality Environmental Engineer

Language: TOEIC 850, OPIC IM