DONGHYEON SHIN

(+82) 10 7736 8525 ⋄ shindong97411@gmail.com

123, Cheomdangwagi-ro, Buk-gu, Gwangju

Republic of Korea, 61005

Personal Statement

Passionate graduate student studying artificial intelligence. Interested in Natural Language Processing and Reinforcement Learning. I am focusing on research towards Artificial General Intelligence, with a primary emphasis on the most prominent Large Language Models and Reinforcement Learning.

EDUCATION

Gwangju Institute of Science and Technology(GIST)   *March 2024 - Ongoing*
Master Student   Overall GPA: 4.08/4.50
Major in Artificial Intelligence

Gwangju Institute of Science and Technology(GIST)   *March 2018 - February 2024*
Undergraduate   Overall GPA: 3.71/4.50
Major in Electrical Engineering and Computer Science
Minor in Mathematics

UC Berkeley   June 2019 - August 2019
Berkeley Summer Session Program   Overall GPA: 4.00/4.00

ACADEMIC ACTIVITIES

Publications

· Seungpil Lee, **Donghyeon Shin**, Yunjeon Lee, and Sundong Kim, *Can Large Language Models Develop Gambling Addiction?*, **Under Review** (2025)

· Seungpil Lee*, Woochang Sim*, **Donghyeon Shin***, Sanha Hwang, Wongyu Seo, Jiwon Park, Seokki Lee, Sejin Kim, and Sundong Kim, *Reasoning Abilities of Large Language Models: In-Depth Analysis on the Abstraction and Reasoning Corpus*, **ACM TIST** (2025)

· **Donghyeon Shin***, Seungpil Lee*, Klea Lena Kovačec, and Sundong Kim, *From Generation to Selection: Findings of converting Analogical Problem-Solving into Multiple-Choice Questions*, **EMNLP Findings** (2024)

· **Donghyeon Shin**, Seungpil Lee, Klea Lena Kovačec, and Sundong Kim, *Regulation Using Large Language Models to Generate Synthetic Data for Evaluating Analogical Ability*, **IJCAI Workshop** (2024)

· **Donghyeon Shin**, Sanha Hwang, Seokki Lee, Yunho Kim, Seungpil Lee, and Sundong Kim, *MC-LARC Benchmark to Measure LLM Reasoning Capability*, **Korea Software Congress** (2023)

· Jaehyun Park, Jagyun Im, Youngdo Lee, **Donghyeon Shin**, Sejin Kim, and Sundong Kim, *Abstraction and Reasoning Challenge with Decision Transformer*, **Korea Computer Congress** (2023)

· Jinseong Son, **Donghyeon Shin**, and Chi-Ok Hwang, *Walk-on-Hemispheres First-Passage Algorithm*, **Scientific Reports** (2023)

SKILLS

Computer Languages	C++, Python
Software & Tools & Framework	LaTeX, Figma, PyTorch, MCP
Language	Korean(Native Language), English(Intermediate)

FUNDING & SCHOLARSHIP

National Research Foundation of Korea Funding, NRF   *July 2024 - June 2025*

· Awarded research funding of ₩12,000,000 as a master's student through the National Research Foundation of Korea (NRF)

Korean Government Scholarships, GIST College   *March 2024 - Present*

· Scholarship awarded to graduate students studying at GIST

Korean Government Scholarships, GIST College   *March 2018 - February 2024*

· Scholarship awarded to undergraduate students studying at GIST

Scholarship for Summer Session Abroad   *June 2019 - August 2019*

· Scholarship awarded to students studying abroad during a summer session

EXPERIENCE

DataScience Lab in GIST   *March 2024 - Present*
Master Student

· Conducting research on reasoning in LLMs, with a focus on reinforcement learning-based enhancement and test-time reasoning strategies.
· Researched the emergence of gambling addiction symptoms in LLMs, drawing parallels with human psychology - Under Review
· Researched the reasoning ability of LLMs using the ARC benchmark - **ACM TIST (2025)**
· Proposed a new benchmark called MC-LARC - **EMNLP Findings (2024)**

DataScience Lab in GIST   *March 2023 - February 2024*
Undergraduate Internship

· Tried to solve Abstraction and Reasoning Corpus benchmark using Skill-based Reinforcement Learning

TA for Computer Networking Course
Teaching Assiatant   *Spring Semesters 2023, 2024, 2025*

· Hosted Q&A sessions to provide academic support.
· Graded homework assignments and exams.
· Contributed to the development of new course assignments.
· Proctored mid-term and final examinations.
· Planned and recorded supplementary lab video sessions.

TA for Signals and Systems
Teaching Assiatant   *Fall Semesters 2024*

· Hosted Q&A sessions to provide academic support.
· Graded homework assignments.
· Proctored mid-term and final examinations.

EXTRA-CURRICULAR

Machine Learning & Deep Learning Study Group *Summer 2023*
Leader

· Studied *An Introduction to Statistical Learning* (Gareth James et al.)

PyTorch Study Group *Fall 2023*
Leader

· Focused on hands-on implementation and model training using PyTorch.

Reinforcement Learning Study Group *Fall–Winter 2023*
Leader

· Studied *Reinforcement Learning: An Introduction* (Richard S. Sutton and Andrew G. Barto)

Academic Writing Study Group *Summer 2024*
Leader

· Studied academic writing through research paper reading and practice.

Convex Optimization Study Group *Summer–Fall 2024*
Leader

· Studied *Convex Optimization* (Stephen Boyd and Lieven Vandenberghe)

Linear Algebra Study Group *Winter 2024*
Leader

· Studied *Linear Algebra* (Stephen H. Friedberg, Arnold J. Insel, and Lawrence E. Spence)

Math for Machine Learning Study Group *Summer 2025*
Leader

· Studied *Mathematics for Machine Learning* (Marc Peter Deisenroth, A. Aldo Faisal, and Cheng Soon Ong)