

# SEUNGPIL LEE

(+82) 10 3283 0369 ◇ iamseungpil@gm.gist.ac.kr  
15 Gwacheon-daero 8-gil, Gwacheon-si  
Gyeonggi-do, Republic of Korea, 13824

## Personal Statement

Passionate master's student studying artificial intelligence. Interested in Brain-Inspired AI, Natural Language Processing and Reinforcement Learning. Also, maintaining keen interest in interdisciplinary subjects such as Cognitive Science and Science, Technology and Society(STS).

## EDUCATION

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<b>Gwangju Institute of Science and Technology(GIST)</b>	<i>March 2025 - present</i>
Master	
Major in AI Convergence	
<b>Gwangju Institute of Science and Technology(GIST)</b>	<i>March 2018 - December 2024</i>
Undergraduate	Overall GPA: 3.66/4.50
Major in Electrical Engineering and Computer Science	
Minor in Mathematics	
Minor in Literature	
<b>UC Berkeley</b>	<i>June 2019 - August 2019</i>
Berkeley Summer Session Program	Overall GPA: 4.00/4.00

## ACADEMIC ACTIVITIES

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### Publications

- **Seungpil Lee\***, Donghyeon Shin, Yunjeong Lee and Sundong Kim, "Can Large Language Models Develop Gambling Addiction?", arXiv preprint, 2025.
- Sanha Hwang, Seungpil Lee, Sejin Kim and Sundong Kim, "Solution Augmentation for ARC-AGI Problems Using GFlowNet: A Probabilistic Exploration Approach", **TMLR**
- **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**.
- **Seungpil Lee\***, Woochang, Sim\*, Donghyeon, Shin\*, Sejin, Kim and Sundong, Kim. "Reasoning Abilities of Large Language Models through the Lens of Abstraction and Reasoning (Extended Abstract of the below paper)." NeurIPS Workshop on System-2 Reasoning at Scale, 2024.
- **Seungpil Lee\***, Donghyeon Shin\*, Klea Lena, Kovacec 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, "Donghyeon Shin, Seungpil Lee, Klea Lena Kovačec, and Sundong Kim", **IJCAI Workshop 2024**.
- Hosung Lee\*, Sejin Kim\*, Seungpil Lee, Sanha Hwang, Jihwan Lee, Byung-Jun Lee and Sundong Kim, "ARCLE: The Abstract and Reasoning Corpus Learning Environment for Reinforcement Learning", **COLLAs, 2024**.
- Seungpil Lee, Jihwan Lee and Sundong Kim, "Evaluating Prior Knowledge of ARC Using World Models", **Korea Software Congress, 2023**.
- Jihwan Lee, Seungpil Lee, Sejin Kim and Sundong Kim, "Extracting the core knowledge of ARC with the World Model", **Korea Software Congress, 2023**.
- 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**.

## SKILLS

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<b>Computer Languages</b>	C, C++, Java, JavaScript, Python
<b>Software &amp; Tools</b>	LaTeX, Spring, Spring Boot
<b>Language</b>	Korean(Native Language), English(Intermediate)

## EXPERIENCE

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<b>DataScience Lab in GIST</b> <i>Undergraduate Internship, Master's Degree</i>	<i>September 2023 - present</i>
<ul style="list-style-type: none"><li>· Tried to solve Abstraction and Reasoning Corpus (ARC) benchmark using World Model and Meta Reinforcement Learning</li><li>· LLM evaluation with Cognitive tools</li><li>· LLM alignment for solving Math and ARC benchmark</li></ul>	
<b>Development Team in Korea Navy</b>	<i>January 2022 - September 2023</i>
<ul style="list-style-type: none"><li>· Developed App and Web service for Korean Navy, mainly as back-end developer</li></ul>	
<b>BioComputing Lab in GIST</b> <i>Undergraduate Internship</i>	<i>June 2020 - January 2021</i>
<ul style="list-style-type: none"><li>· Tried to develop new Spiking Neural Network method with synthetic gradient</li></ul>	

## AWARD & FUNDING

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<b>National Research Foundation of Korea Funding, NRF</b>	<i>September 2025 - September 2026</i>
<ul style="list-style-type: none"><li>· Funding offered to outstanding master's students for conducting research projects</li></ul>	
<b>Best Undergraduate Thesis Award, GIST EECS</b>	<i>February 2025</i>
<ul style="list-style-type: none"><li>· Awarded the best thesis award with graduation thesis using MC-LARC</li></ul>	
<b>Korean Government Scholarships, GIST College</b>	<i>March 2018 - August 2024</i>
<ul style="list-style-type: none"><li>· Scholarship awarded to students studying in GIST</li></ul>	
<b>Scholarship for Summer Session Abroad</b>	<i>June 2019 - August 2019</i>
<ul style="list-style-type: none"><li>· Scholarship awarded to students studying abroad during a summer session</li></ul>	
<b>Navy AI Competition</b>	<i>June 2023 - August 2023</i>
<ul style="list-style-type: none"><li>· Awarded drone object detecting competition hosted by Korean Navy</li></ul>	
<b>K-StartUp finals</b>	<i>March 2023 - November 2023</i>
<ul style="list-style-type: none"><li>· Advanced to the finals of Korean largest start-up contest, 'K-StartUp', as ML researcher and back-end developer</li></ul>	

## EXTRA-CURRICULAR

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<b>AGIST</b> <i>Deep Learning Study Group</i>	<i>August 2020 - January 2021</i>
<ul style="list-style-type: none"><li>· Listened to presentations about various machine learning algorithms including explainable AI and Brain-inspired AI</li><li>· Prepared presentations of Spiking Neural Network(SNN) with Spike-Timing-Dependent Plasticity(STDP) learning</li></ul>	