# 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 undergraduate 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

**Gwangju Institute of Science and Technology(GIST)** *March 2018 - Present*
Undergraduate Overall GPA: 3.63/4.50
Major in Electrical Engineering and Computer Science
Minor in Mathematics
Minor in Literature

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

## SKILLS

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|---|---|
| **Computer Languages** | C, C++, Java, JavaScript, Python |
| **Software & Tools** | LaTeX, Spring, Spring Boot |
| **Language** | Korean(Native Language), English(Intermediate) |

## EXPERIENCE

**DataScience Lab in GIST** September 2023 - Present
*Undergraduate Internship*

· Tried to solve Abstraction and Reasoning Corpus (ARC) benchmark using World Model and Meta Reinforcement Learning

**Development Team in Korea Navy** January 2022 - September 2023

· Developed App and Web service for Korean Navy, mainly as back-end developer

**BioComputing Lab in GIST** June 2020 - January 2021
*Undergraduate Internship*

· Tried to develop new Spiking Neural Network method with synthetic gradient

## AWARD & SCHOLARSHIP

**Korean Government Scholarships, GIST College** March 2018 - present

· Scholarship awarded to students studying in GIST

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

· Scholarship awarded to students studying abroad during a summer session

**Navy AI Competion** June 2023 - August 2023

· Awarded drone object detecting competition hosted by Korean Navy

**K-StartUp finals** March 2023 - November 2023

· Advanced to the finals of Korean largest start-up contest, 'K-StartUp', as ML researcher and back-end developer

## ACADEMIC ACTIVITIES

### Publications

· Hosung Lee*, Sejin Kim*, Seungpil Lee, Sanha Hwang, Jihwan Lee, Byung-Jun Lee, Sundong Kim, "ARCLE: The Abstract and Reasoning Corpus Learning Environment for Reinforcement Learning", **CoLLAs, 2024.**

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

· Seungpil Lee, Jihwan Lee, Sundong Kim, "Evaluating Prior Knowledge of ARC Using World Models", **Korea Software Congress, 2023.**

· Jihwan Lee, Seungpil Lee, Sejin Kim, 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, Sundong Kim, "MC-LARC Benchmark to Measure LLM Reasoning Capability", **Korea Software Congress, 2023.**

### Projects

· **Software Engineering and Project**: Made a anonymous community system, which censors toxic comments automatically

· **Artificial Intelligence**: Developed a model to identify the actions carried out by a person given a set of observations(acceleration and gyro on x, y, z axis each with 2.56 second window) of itself and the surrounding environment

## EXTRA-CURRICULAR

**AGIST** August 2020 - January 2021

*Deep Learning Study Group*

· Listened to presentations about various machine learning algorithms including explainable AI and Brain-inspired AI

· Prepared presentations of Spiking Neural Network(SNN) with Spike-Timing-Dependent Plasticity(STDP) learning