

Sanggyu Lee

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Education

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| BS Seoul National University , Computer Science and Engineering | Mar 2020 – Aug 2026 |
| <ul style="list-style-type: none">• GPA: 4.20 / 4.30 (<i>Summa Cum Laude</i>)• Ranked 1st in the Class of 2026 CS Department graduates | |
| Georgia Institute of Technology , Computer Science | Jan 2025 – May 2025 |
| <ul style="list-style-type: none">• Exchange Student for Spring 2025 | |

Experience

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| Jane Street Asia Limited
Software Engineer | Sept 2026 – present |
| ROPAS (Programming Research Laboratory) (Prof. Kwangkeun Yi)
Undergraduate Researcher | Feb 2026 – June 2026 |
| <ul style="list-style-type: none">• Authored B.S. thesis on let-polymorphic type systems, titled <i>Let-Polymorphism for Non-Expansive Function Calls</i>. | |
| Jane Street Asia Limited
Software Engineering Intern | May 2025 – June 2025 |
| <ul style="list-style-type: none">• Engineered a <i>full-stack</i> internal tool using <i>open source graph visualization</i> library and <i>Bonsai</i> to visualize complex cash movements as an interactive graph, reducing the time required for data lineage analysis and debugging.• <i>Contributed</i> to an <i>OCaml</i> codebase by applying <i>functional programming</i> principles and participating in peer <i>code reviews</i> to maintain code quality. | |
| Architecture and Code Optimization Lab (Prof. Jae W. Lee)
Undergraduate Researcher | Apr 2024 – Aug 2024 |
| <ul style="list-style-type: none">• Applied HW-SW Co-Design to build a <i>heterogeneous LLM inference system</i> using CXL PNM, achieving a 2x theoretical throughput gain.• Evaluated and optimized fp8 rounding methods on weight and activation parameters by analyzing <i>error expectations</i>. | |
| Republic of Korea Army
Soldier | Sept 2022 – Mar 2024 |
| FriendliAI Inc.
Research Intern | July 2022 – Aug 2022 |
| <ul style="list-style-type: none">• Expedited NVIDIA CUDA GPU collective operations running matrix multiplication in parallel, with a <i>speed comparable to the SOTA library</i>. | |
| Whew-AI Inc.
Director & Co-Founder | July 2021 – June 2022 |
| <ul style="list-style-type: none">• Surpassed SOTA scores in remote PPG (heart rate estimation from facial video) through innovative research.• Developed a video chat application with a built-in heart rate monitor, creating <i>a new avenue for remote communication</i>. | |

AI & Big Data Lab, Seoul National University Hospital (Prof. Du Hyun Ro)

Apr 2021 – Apr 2022

Researcher & Software Engineer

- Developed a **full-stack web service** for *surgical planning* by analyzing *AP X-ray images*, streamlining the *pre-surgical workflow*.
- Enabled an *AI startup*, [Connecteve](#), to secure **seed funding** by delivering *core technologies and product demos*.

Projects

Hana Academy Seoul Timetable Optimization

July 2024 – Feb 2025

- Solved a **large-scale scheduling problem** for *600 students* with diverse course preferences, *60 teachers*, and complex constraints using Google **OR-Tools** SAT solver
- Reduced computation time from **5000 CPU-hours** to **12 CPU-hours** by applying advanced heuristics, making the solution feasible.

Awards

1st Place, 2024 Accelerator Programming Summer School

- Achieved **50,000x acceleration** of a *Variational Autoencoder (VAE) model*, demonstrating deep expertise in *optimization techniques*.

2nd Place, 2022 Cryptoanalysis Contest

- Successfully executed a **power analysis attack** on competition data.
- Awarded by the Director of Defense Intelligence Agency (*Lieutenant General*).

2nd Place, 2021 SNU FastMRI Challenge

- [Contributed](#) to Facebook Research's *fastMRI repository* by researching *E2EVarNet* and *DFT techniques*.
- Awarded **₩5M (~USD 4K)**.

Gold Prize (2nd Place), 2021 International Student Car Competition (Autonomous Driving)

- Integrated **SLAM, vision, and path planning algorithms** to complete a real-world driving course with a *model car*.

Publications

A deep learning based automatic two-dimensional digital templating model for total knee arthroplasty.

Nov 2024

Park J, Kim S, Kim B, et al

[10.1186/s43019-024-00240-7](#)

Automated Detection of Surgical Implants on Plain Knee Radiographs Using a Deep Learning Algorithm

Nov 2022

Kim B, Lee DW, **Lee S**, et al

[10.3390/medicina58111677](#)

A Model Car for Autonomous Driving Education with Enhanced Perception and Maneuvering Ability

Sept 2020

J Moon, **S Lee**

(Journal of Youth Engineering)

Path Planning and Maneuvering Algorithm for Stable Rotation-Driving on Simple Solid Lanes

Sept 2019

S Lee, H Kim, J Byun, et al

(Journal of Youth Engineering)