

JAY LEE 이재호

CURRICULUM VITAE

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RESEARCH INTERESTS

Programming Languages, Program Analysis, Functional Programming, and Human-Computer Interaction

EDUCATION

- Mar 2024–Present **Seoul National University (SNU), M.S. in Computer Science and Engineering**
Advised by Kwangkeun Yi.
- Mar 2018–Feb 2024 **Seoul National University (SNU), B.S. in Electrical and Computer Engineering (Cum laude)**
Advised by Yoonchan Jeong.
Leave of absence for mandatory military service during 2020–2021.
- Mar 2015–Feb 2018 **Korea Science Academy of KAIST (KSA), High school for gifted students**

SELECTED RESEARCH

-  **REACT-TRACE: A Semantics for Understanding React Hooks**
Jay Lee, Joongwon Ahn, Kwangkeun Yi
Conditionally accepted.
-  **ReDemon UI: Reactive Synthesis by Demonstration for Web UI**
Jay Lee, Gyuhyeok Oh, Joongwon Ahn, Xiaokang Qiu
Submitted.
-  **Retargeting an Abstract Interpreter for a New Language by Partial Evaluation**
Jay Lee
Awarded 2nd place in the graduate category.

SELECTED HONORS

- Jun 2025 **PLDI 2025 Student Research Competition (SRC) 2nd Place**
For the work on *Retargeting an Abstract Interpreter for a New Language by Partial Evaluation*.
- Sep 2024 **Outstanding Teaching Assistant Award**
For the course *SNU 4190.310 Programming Languages* taught by Prof. Kwangkeun Yi.
- Mar 2018–Feb 2024 **National Presidential Scholarship for Science**
Offered to top-120 undergraduate students in the field of science and technology.
- May 2017 **Intel International Science and Engineering Fair (ISEF) Finalist**
For the project *Receding Horizon Next-Best-View Planner Based Voronoi-Biased 3D Multi-Robot Exploration Algorithm*.
- Mar 2015–Feb 2018 **Korea Science Academy Fund Scholarship**
For students with high GPAs.

TEACHING

Teaching Assistant

- Spring 2025 **SNU 4190.664A Program Analysis**
- Spring 2025 **SNU 4190.310 Programming Languages**
- Spring 2024 **SNU 4190.310 Programming Languages**
Awarded the Outstanding Teaching Assistant Award for this course.
- Spring 2022 **SNU 4190.310 Programming Languages**

INDUSTRY EMPLOYMENT

Apr 2019–Dec 2019



Jeongyookgak, *iOS application developer*

Developed an iOS app for Jeongyookgak, a distribution business startup that delivers fresh meat to customers.

MISCELLANEOUS

2025–Present



OCaml organization, *Opam repository maintainer*

Maintaining the OCaml package repository.

2023–Present



easyword.kr, *Designer & developer*

A platform to suggest and discuss Korean translations of computer science jargons. Led by Prof. Kwangkeun Yi and funded by the Korean Institute of Information Scientists and Engineers (KIISE).

2020–Present



simplebnf, *Developer*

A \LaTeX package that provides a simple way to typeset BNF using a DSL. Available on [CTAN](#).



2023

Cycloidal-Surfaces, *Illustrator & developer*

Illustrations of cycloid surfaces on parametrized curves with Asymptote, used in Hyounggyu Choi. (2023) Invariance of the Area and Volume of Cycloid Surfaces and Trochoid Surfaces. *The American Mathematical Monthly* 130:1, 49-62.



2020

CycloidGen, *Illustrator & developer*

Illustrations of cycloids on parametrized curves with TikZ and Python, used in Hyounggyu Choi. (2020) Invariance of the Length and the Area of Cycloids. *The American Mathematical Monthly* 127:6, 537-544.

2019–2024

Korean \TeX Society (KTS), *Member*

I have given a few talks including:

- [Modern \$\text{\TeX}\$: Engines, AI, and Automation](#), 2023 KNU \LaTeX Workshop
- [Drawing tables with `tabularray`](#), 2022 KNU \LaTeX Workshop
- [Asymptote: The Vector Graphics Language](#), 2022 KNU \LaTeX Workshop
- [The “key-value” structure in \$\text{\LaTeX}\$](#) , 2021 KNU \LaTeX Workshop
- [beamer: Content-focused Presentation](#), 2020 KNU \LaTeX Workshop
- [\$\text{\TeX}\$ nicol Vim](#), 2020 KTS Conference
- [memoir: chapter style](#), 2019 KNU \LaTeX Workshop

2018–2024

SNULife, *Development head*

SNULife is the web community for SNU with 180k+ monthly visitors. I created an iOS app for planning timetables and sharing lecture reviews, used by 5k+ users.

2020–2021

Republic of Korea (ROK) Army, *Sergeant signaller*

Completed mandatory military service in the ROK Army.

2018

Student Representative, *Department of Electrical and Computer Engineering*

Elected as a student representative for the Department of Electrical and Computer Engineering at SNU.

KYPT 2016, 2017

Korea Young Physicists' Tournament, *Team lead*

KYPT is a physics competition for high school students. I led the team that won a gold medal in KYPT 2017 and a bronze medal in KYPT 2016.



KIPS 2016

Receding Horizon Next-Best-View Planner Based Voronoi-Biased 3D Multi-Robot Exploration Algorithm

[J. Lee](#), C. Lee, W. Jung, S. Song, S. Jo

A domestic conference paper.

2016

Frontiers Summer Program, *Worcester Polytechnic Institute*

Studied aerospace engineering and psychology at Worcester Polytechnic Institute in the USA.

NATURAL LANGUAGES

Korean (native), **English** (fluent), **Spanish** (elementary)