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

OOPSLA 2025
REACT-TRACE: A Semantics for Understanding React Hooks
Jay Lee, Joongwon Ahn, Kwangkeun Yi
Conditionally accepted.

UIST 2025 Posters
ReDemon UI: Reactive Synthesis by Demonstration for Web UI
Jay Lee, Gyuhyeok Oh, Joongwon Ahn, Xiaokang Qiu
Submitted.

PLDI 2025 Student Research Competition (SRC)
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, *Graduate category*
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, *Full tuition waiver with an academic incentive*
Offered to top-120 undergraduate students in the field of science and technology.

May 2017
Intel International Science and Engineering Fair (ISEF) Finalist, *Korean representative*
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**, *Undergraduate TA*

Tutoring

Fall 2024 **SNU SPLIT Basic Programming Tutoring**, *Python tutor*

Industry Employment

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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

PL Reading Group @ Seoul/Tokyo, *Co-organizer*
PL reading group with participants from *Programming Research Laboratory at Seoul National University* and *Programming Research Group at the Institute of Science Tokyo.* Tuesday every week at 2PM KST/JST.

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2025–Present

OCaml organization, *Opam repository maintainer*
Maintaining the OCaml package repository.

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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).

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2020–Present

simplebnf, *Developer*
A LaTeX package that provides a simple way to typeset BNF using a DSL. Available on CTAN.

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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.

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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 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 LaTeX, 2021 KNU LaTeX Workshop
- `beamer`: Content-focused Presentation, 2020 KNU LaTeX Workshop
- TeXnical Vim, 2020 KTS Conference
- `memoir`: chapter style, 2019 KNU LaTeX Workshop

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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.

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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.

Programming Languages

C (2012), **Python** (2013), C++ (2016), TeX (2016), Swift (2018), TikZ (2018), **OCaml** (2019), λ calculus (2019), **LaTeX3/expl3** (2019), Asymptote (2020), Scheme (2020), AWK (2020), JavaScript (2020), Lua (2021),

CWEB (2021), Yacc (2021), **ReScript** (2022), **React** (2022), Rocq/Coq (2023), Rust (2023), **TypeScript** (2023), Typst (2024), Penrose (2024), Nix (2024), Lean (2025). I use the **bolded** languages frequently.

Natural Languages

Korean (native, 1999), **English** (fluent, 2006), **Spanish** (elementary, 2022)