

JAY LEE 이재호

CURRICULUM VITAE

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RESEARCH INTERESTS

I build tools and abstractions to help programmers and domain experts easily build reliable systems.

Areas Programming Languages · Static Analysis · Program Synthesis · Human–Computer Interaction

EDUCATION

Mar 2024–Feb 2026

Seoul National University (SNU), M.S. in Computer Science and Engineering

Advised by [Kwangkeun Yi](#).

Thesis: REACT-TRACE: A Semantics for Understanding React Hooks

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

 PEPM 2026
Short Papers

Retargeting an Abstract Interpreter for a New Language by Partial Evaluation (Short Paper), (accepted)

Jay Lee, Joongwon Ahn, Kwangkeun Yi

Proceedings of the 2026 ACM SIGPLAN International Workshop on Partial Evaluation and Program Manipulation (PEPM '26), January 13, 2026, Rennes, France.

    OOPSLA 2025

REACT-TRACE: A Semantics for Understanding React Hooks

Jay Lee, Joongwon Ahn, Kwangkeun Yi

Proc. ACM Program. Lang. 9, OOPSLA2, Article 289 (October 2025). (Acceptance rate: 35.6%)

   UIST 2025
Posters

ReDemon UI: Reactive Synthesis by Demonstration for Web UI

Jay Lee, Gyuhyeok Oh, Joongwon Ahn, Xiaokang Qiu

The 38th Annual ACM Symposium on User Interface Software and Technology (UIST Adjunct '25), September 28–October 1, 2025, Busan, Republic of Korea. (Acceptance rate: 43.8%)

Awarded a Best Poster Honorable Mention Award.

   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

Oct 2025

UIST 2025 Best Poster Honorable Mention Award, ACM SIGCHI & SIGGRAPH

ReDemon UI: Reactive Synthesis by Demonstration for Web UI

Aug 2025

SIGPL Summer School 2025 Presentation Award 1st Place, KIISE SIGPL

REACT-TRACE: A Semantics for Understanding React Hooks

Jun 2025

PLDI 2025 Student Research Competition (SRC) Graduate Category 2nd Place, ACM SIGPLAN

Retargeting an Abstract Interpreter for a New Language by Partial Evaluation

Sep 2024

Outstanding Teaching Assistant Award, SNU College of Engineering

SNU 4190.310 Programming Languages

Aug 2024

SIGPL Summer School 2024 Presentation Award 2nd Place, KIISE SIGPL

Let's Catch Incorrect React Hook Usage Early!

Mar 2018–Feb 2024

Presidential Science Scholarship, Korea Student Aid Foundation

Full tuition waiver with an incentive offered to top 120 undergraduates in the field of science.

May 2017

Intel International Science and Engineering Fair (ISEF) Finalist, Korean representative

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

Mar 2015–Feb 2018

Korea Science Academy Fund Scholarship, Korea Science Academy of KAIST

For students with high GPAs.

TEACHING**Teaching Assistant**

Fall 2025

SNU V10.118 Future

Spring 2025

SNU 4190.664A Program Analysis

Spring 2025

SNU 4190.310 Programming Languages

Fall 2024

SNU 4190.209 Computer Engineering Seminar

Spring 2024

SNU 4190.310 Programming Languages, Outstanding Teaching Assistant Award

Spring 2022

SNU 4190.310 Programming Languages, Undergraduate TA**Tutoring**

Fall 2024

SNU SPLIT Basic Programming Tutoring, Python tutor

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

PL Reading Group @ Seoul/Tokyo, Co-organizerPL reading group with participants from *Programming Research Laboratory at Seoul National University* and *Programming Research Group at the Institute of Science Tokyo*. Wednesday every week at 15:30 KST/JST.

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, DeveloperA L^AT_EX package that provides a simple way to typeset BNF using a DSL. Available on [CTAN](#).

2023

Cycloidal-Surfaces, Illustrator & developerIllustrations 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 & developerIllustrations 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 T_EX Society (KTS), Member

I have given a few talks including:

- [Modern T_EX: Engines, AI, and Automation](#), 2023 KNU L^AT_EX Workshop
- [Drawing tables with tabulararray](#), 2022 KNU L^AT_EX Workshop
- [Asymptote: The Vector Graphics Language](#), 2021 KNU L^AT_EX Workshop
- [The “key-value” structure in L^AT_EX](#), 2021 KNU L^AT_EX Workshop
- [beamer: Content-focused Presentation](#), 2020 KNU L^AT_EX Workshop
- [T_EXnical Vim](#), 2020 KTS Conference
- [memoir: chapter style](#), 2019 KNU L^AT_EX 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 signaler

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 (KYPT), 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/한국어 (native, 1999), **English** (fluent, 2006), **Spanish/Español** (elementary, 2022)

PROGRAMMING LANGUAGES

C (2012), **Python** (2013), C++ (2016), **TeX** (2016), Swift (2018), TikZ (2018), **OCaml** (2019), λ calculus (2019), **L^TE₃/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.