

JAY LEE 이재호

CURRICULUM VITAE

✉ jaeho.lee@snu.ac.kr, jhlee@ropas.snu.ac.kr
🌐 ropas.snu.ac.kr/~jhlee, jaylee.xyz
🔗 Zeta611

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**
OOPSLA 2025
Jay Lee, Joongwon Ahn, Kwangkeun Yi
Accepted.
- 📄🔗🌐 **ReDemon UI: Reactive Synthesis by Demonstration for Web UI**
UIST 2025
Posters
Jay Lee, Gyuhyeok Oh, Joongwon Ahn, Xiaokang Qiu
Accepted.
- 📄📺🌐 **Retargeting an Abstract Interpreter for a New Language by Partial Evaluation**
PLDI 2025
Student Research Competition (SRC)
Jay Lee
Awarded 2nd place in the graduate category.

SELECTED HONORS

- 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


- Spring 2025 **SNU 4190.664A Program Analysis, Outstanding Teaching Assistant Award (currently nominated)**
- 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


 **Jeongyookgak, iOS application developer**
 Apr 2019–Dec 2019 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 2 PM KST/JST.

 **OCaml organization, Opam repository maintainer**
 2025–Present Maintaining the OCaml package repository.

 **easyword.kr, Designer & developer**
 2023–Present 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).


 **simplebnf, Developer**
 2020–Present A \LaTeX package that provides a simple way to typeset BNF using a DSL. Available on [CTAN](#).

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

 **CycloidGen, Illustrator & developer**
 2020 Illustrations of cycloids on parametrized curves with TikZ and Python, used in Hyunggyu 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 \TeX Workshop
- [Drawing tables with tabulararray](#), 2022 KNU \TeX Workshop
- [Asymptote: The Vector Graphics Language](#), 2021 KNU \TeX Workshop
- [The “key-value” structure in \$\text{\TeX}\$](#) , 2021 KNU \TeX Workshop
- [beamer: Content-focused Presentation](#), 2020 KNU \TeX Workshop
- [\$\text{\TeX}\$ ncinal Vim](#), 2020 KTS Conference
- [memoir: chapter style](#), 2019 KNU \TeX Workshop

 **SNULife, Development head**
 2018–2024 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, 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.

 **Receding Horizon Next-Best-View Planner Based Voronoi-Biased 3D Multi-Robot Exploration Algorithm**
 KIPS 2016 [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), **T_EX** (2016), Swift (2018), TikZ (2018), **OCaml** (2019), λ calculus (2019), **L^AT_EX3/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.