

# DONGJAE LEE

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## SUMMARY

I am currently a PhD student at MIT PDOS. My research interests include verification of computer systems, concurrency, and security. I have research experience with the Coq proof assistant, compiler verification, concurrent program verification, and security.

## EDUCATION

**Ph.D., Computer Science and Engineering** Current  
Massachusetts Institute of Technology, Cambridge, MA, USA

**M.S., Computer Science and Engineering** 02.2024  
Seoul National University, Seoul, South Korea

- Advised by Chung-Kil Hur
- Thesis: Operational Semantics for Expressing and Reasoning about Fairness Properties

**B.S., Physics, Computer Science and Engineering (Double Major)** 08.2021  
Seoul National University, Seoul, South Korea

## EXPERIENCE

**Software Foundations Lab, Seoul National University** 03.2024 - 08.2024  
Research Assistant: Seoul, South Korea

**Max Planck Institute for Security and Privacy** 03.2023 - 08.2023  
Research Intern: Bochum, Germany

- Advised by Cătălin Hrițcu
- Worked on secure compilation

**Software Foundations Lab, Seoul National University** 09.2020 - 08.2021  
Research Intern: Seoul, South Korea

- Advised by Chung-Kil Hur
- Worked on Conditional Contextual Refinement

**ROK Army (Mandatory Military Service)** 01.2019 - 08.2020  
Sergeant: South Korea

**Integrated Quantum Systems Lab, Seoul National University** 04.2017 - 08.2017  
Research Intern: Seoul, South Korea

- Advised by Dohun Kim
- Worked on NV center qubits, programming and developing devices for experiments

## PUBLICATIONS

\*equal contribution

### Refinement Composition Logic

Youngju Song, **Dongjae Lee**.

International Conference on Functional Programming (ICFP 2024)

### SECOMP: Formally Secure Compilation of Compartmentalized C Programs

Jérémy Thibault, Roberto Blanco, **Dongjae Lee**, Sven Argo, Arthur Azevedo de Amorim, Aïna Linn Georges, Cătălin Hrițcu, Andrew Tolmach.

Draft (<https://arxiv.org/abs/2401.16277>)

### Stuttering for Free

Minki Cho\*, Youngju Song\*, **Dongjae Lee**, Lennard Gäher, Derek Dreyer.

International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2023)

## Fair Operational Semantics

**Dongjae Lee\***, Minki Cho\*, Jinwoo Kim, Soonwon Moon, Youngju Song, Chung-Kil Hur.  
Conference on Programming Language Design and Implementation (PLDI 2023)

## Conditional Contextual Refinement

Youngju Song, Minki Cho, **Dongjae Lee**, Chung-Kil Hur, Michael Sammler, Derek Dreyer.  
Symposium on Principles of Programming Languages (POPL 2023)

## Sequential Reasoning for Optimizing Compilers under Weak Memory Concurrency

Minki Cho\*, Sung-Hwan Lee\*, **Dongjae Lee**, Chung-Kil Hur, Ori Lahav.  
Conference on Programming Language Design and Implementation (PLDI 2022)

## HONORS AND AWARDS

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Master's Thesis Award	02.2024
Department of Computer Science and Engineering, Seoul National University: Seoul, South Korea	

## TALKS

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Fair Operational Semantics	06.2023
PLDI 2023: Orlando, Florida, United States	

Overview of Fair Operational Semantics (as a part of introducing Software Foundations Lab)	02.2023
SIGPL Winter School 2023 (The Korean Institute of Information Scientists and Engineers): Seoul, South Korea	

## TEACHING

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<b>(TA) Topics in Programming Languages (Logic in computer science)</b>	09.2023 - 12.2023
by Makoto Tatsuta: Seoul National University, Graduate level course	

<b>(TA) Principles of Programming</b>	09.2022 - 12.2022
by Chung-Kil Hur: Seoul National University, Undergraduate level course	

<b>(TA) Principles and Practices of Software Development</b>	03.2022 - 06.2022
by Chung-Kil Hur: Seoul National University, Undergraduate level course	

## ACTIVITIES

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Developing a Coq tutorial for refinement-based verification: <https://github.com/dongjaelee1/refinement-tutorial>