Curriculum Vitae

Personal Information

Full Name:	Seongmin Lee
Full Curriculum Vitae:	https://nimgnoeseel.github.io/resources/cv/cv.pdf
Google Scholar:	https://scholar.google.com/citations?user=-YSnc6kAAAAJ&hl=en
Personal Website:	https://nimgnoeseel.github.io

Research Interests

My research interest lies in software testing and program analysis. The overarching objective of my research is **achieving practical software testing in real-world scenarios** by addressing the challenges associated with the scale and complexity of software systems, overcoming the limitations of formal methods, and taking account of the operational behavior of software systems. I **utilize statistical methods to analyze dynamic information from program execution**, facilitating the reasoning of a program's semantic properties and addressing empirical challenges in software testing.

Education and Employment

Max Planck Institute for Security and Privacy — Germany
- **Postdoctoral Researcher, Software Security Research group** (Group head: Dr. Marcel Böhme) Sep. 2022 – Present

Korea Advanced Institute of Science and Technology — Republic of Korea
- **Doctor of Philosophy, School of Computing** (Advisor: Dr. Shin Yoo) Sep. 2016 – Aug. 2022
- **Bachelor of Science, School of Computing** Feb. 2012 – Aug. 2016
- **Bachelor of Science, Department of Mathematical Sciences**

Selected Publications (* J: Journal, C: Conference)

J1 Seongmin Lee, Dave Binkley, Robert Feldt, Nicolas Gold, and Shin Yoo. Causal Program Dependence Analysis. *Science of Computer Programming*, 240, 2025

C1 Seongmin Lee, Shreyas Minocha, and Marcel Böhme. Accounting for Missing Events in Statistical Information Leakage Analysis. ICSE '25, 2025

C2 *Danushka Liyanage, *Seongmin Lee, Chakkrit Tantithamthavorn, and Marcel Böhme. Extrapolating Coverage Rate in Greybox Fuzzing. ICSE '24, 2024 (**Co-first authors with equal contribution*)

C3 Seongmin Lee and Marcel Böhme. Statistical Reachability Analysis. ESEC/FSE 2023, 2023

C4 Saeyoon Oh, Seongmin Lee, and Shin Yoo. Effectively Sampling Higher Order Mutants Using Causal Effect. 2021

J2 Seongmin Lee, David Binkley, Robert Feldt, Nicolas Gold, and Shin Yoo. Observation-Based Approximate Dependency Modeling and Its Use for Program Slicing. *Journal of Systems and Software*, 179, 2021

Academic Services (* Services before 2023 are omitted.)

- Program committee: ASE'24, ISSTA'24, FUZZING'24, SCAM'24, ASE'23
- Reviewer: TOSEM'24, TSE'24, IST'24, ASE'24

Grants and Fellowships

- Title: *Statistical Security Analysis for Large, Evolving Software*
  Grant ID: DFG under Germany's Excellence Strategy - **EXC 2092 CASA - 390781972**
  Amount: Salary according to the remuneration group E 14 TV-L (full time, ∼ €136,000), Duration: 2024.01.01 – 2025.12.31

Awards and honors

- **Distinguished Artifact Reviewer Award**, 33rd USENIX Security Symposium, 2024
- **PhD Dissertation Award**, School of Computing, KAIST, 2022
  - *Title of Dissertation: Statistical Program Dependence Approximation*
- **2021 Naver Ph.D. Fellowship Award**: Awarded by NAVER Corp. to Ph.D. candidates who have published an outstanding research paper or have excellent publication performance, 2021