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

The overarching objective of my research is to achieve **practical software testing in real-world scenarios** by addressing the empirical challenges associated with the *scale and complexity of software systems*. To do so, I **utilize statistical methods**, such as *causal inference, biostatistics, and machine learning*, **to analyze the dynamic behavior of software in operational environments**. My research has been published in top-tier software engineering venues, including ICSE, FSE, and JSS, and I served as a program committee member for top-tier conferences, including FSE, ASE, and ISSTA.

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 S. Lee, D. Binkley, R. Feldt, N. Gold, and S. Yoo. Causal program dependence analysis. *Science of Computer Programming*, 240:103208, Feb. 2025

C1 S. Lee, S. Minocha, and M. Böhme. Accounting for Missing Events in Statistical Information Leakage Analysis. In *Proceedings of the IEEE/ACM 47th International Conference on Software Engineering*, ICSE '25, pages 1–12, New York, NY, USA, 2025. Association for Computing Machinery

C2 D. Liyanage, S. Lee, C. Tantithamthavorn, and M. Böhme. Extrapolating Coverage Rate in Greybox Fuzzing. In *Proceedings of the IEEE/ACM 46th International Conference on Software Engineering*, ICSE '24, pages 1–12, New York, NY, USA, Apr. 2024. Association for Computing Machinery (**Co-first authors with equal contribution*)

C3 S. Lee and M. Böhme. Statistical Reachability Analysis. In *Proceedings of the 31st ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering*, ESEC/FSE 2023, pages 326–337, New York, NY, USA, Nov. 2023. Association for Computing Machinery

C4 S. Oh, S. Lee, and S. Yoo. Effectively Sampling Higher Order Mutants Using Causal Effect. In *2021 IEEE International Conference on Software Testing, Verification and Validation Workshops (ICSTW)*, pages 19–24, Apr. 2021

J2 S. Lee, D. Binkley, R. Feldt, N. Gold, and S. Yoo. Observation-based approximate dependency modeling and its use for program slicing. *Journal of Systems and Software*, 179:110988, Sept. 2021

Academic Services (* Services before 2023 are omitted.)

- Program committee: CauSE'25, 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
- **2021 Naver Ph.D. Fellowship Award**, NAVER Corp., 2021