

# CURRICULUM VITAE

## Personal Information

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Full Name:	Seongmin Lee
Full Curriculum Vitae:	<a href="https://nimgnoseel.github.io/resources/cv/cv.pdf">https://nimgnoseel.github.io/resources/cv/cv.pdf</a>
Google Scholar:	<a href="https://scholar.google.com/citations?user=-YSnc6kAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=-YSnc6kAAAAJ&amp;hl=en</a>
Personal Website:	<a href="https://nimgnoseel.github.io">https://nimgnoseel.github.io</a>

## Research Interests

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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

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Max Planck Institute for Security and Privacy	Germany
<b>Postdoctoral Researcher, Software Security Research group</b> (Group head: Dr. Marcel Böhme)	Sep. 2022 – Present
Korea Advanced Institute of Science and Technology	Republic of Korea
<b>Doctor of Philosophy, School of Computing</b> (Advisor: Dr. Shin Yoo)	Sep. 2016 – Aug. 2022
<b>Bachelor of Science, School of Computing</b>	Feb. 2012 – Aug. 2016
<b>Bachelor of Science, Department of Mathematical Sciences</b>	

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

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- 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.)

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

## Grants and Fellowships

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- 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

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- **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