

Daye Nam

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Research Interests

Software Engineering, Human-Computer Interaction, Natural Language Processing
Machine Learning for SE, Human AI Interaction, Mining Software Repositories

Education

- 2018–Present **Carnegie Mellon University, Pittsburgh, USA.**
Ph.D. in Software Engineering
Advisors: Brad A. Myers, Bogdan Vasilescu, Vincent Hellendoorn
- 2016–2018 **University of Southern California, Los Angeles, USA.**
M.S. in Computer Science
Advisor: Nenad Medvidovic
- 2012–2016 **Yonsei University, Seoul, Korea.**
B.S. in Computer Science
- 2014–2015 **University of California Irvine, Irvine, USA.**
International Exchange Program, Major: Computer Science

Peer-reviewed Conference Papers

- [C11] **Daye Nam**, Andrew Macvean, Brad Myers, and Bogdan Vasilescu. (2024) Understanding Documentation Use Through Log Analysis: A Case Study of Four Cloud Services. Accepted to *the CHI conference on Human Factors in Computing Systems (CHI)*, acceptance rate: 26% = 1,060/4,028.
- [C10] **Daye Nam**, Andrew Macvean, Vincent Hellendoorn, Bogdan Vasilescu, and Brad Myers. (2024) In-IDE Generation-based Information Support with a Large Language Model. Accepted to *the 46th International Conference on Software Engineering (ICSE)*.
- [C9] Matin Amoozadeh, David Daniels, **Daye Nam**, Stella Chen, Michael Hilton, Sruti Srinivasa Ragavan and Mohammad Amin Alipour (2024) Evaluating Trust in Generative AI among students. *Accepted to the Technical Symposium on Computer Science Education (SIGCSE TS)*.
- [C8] **Daye Nam**, Brad Myers, Bogdan Vasilescu, and Vincent Hellendoorn. (2023) Improving API Knowledge Discovery with ML: A Case Study of Comparable API Methods. *The 45th International Conference on Software Engineering (ICSE)*, acceptance rate: 26% = 208/796.
- [C7] **Daye Nam***, Baishakhi Ray*, Seohyun Kim, Xianshan Qu, Satish Chandra (2022) Predictive Synthesis of API-Centric Code. *The 6th ACM SIGPLAN International Symposium on Machine Programming (MAPS@PLDI)*.
- [C6] **Daye Nam**. (2019) API Design Implications of Boilerplate Client Code. *The 34th International Conference on Automated Software Engineering, Student Research Competition (ASE SRC). 2nd Place*
- [C5] **Daye Nam**, Amber Horvath, Andrew Macvean, Brad Myers, and Bogdan Vasilescu. (2019) MARBLE: Mining for Boilerplate Code to Identify API Usability Problems. *The 34th International Conference on Automated Software Engineering (ASE)*, acceptance rate: 21% = 93/445.
- [C4] Amber Horvath, Sachin Grover, Sihan Dong, Emily Zhou, Finn Voichick, Mary Beth Kery, Shwetha Shinju, **Daye Nam**, Mariann Nagy, and Brad Myers. (2019) The Long Tail: Understanding the Discoverability of API Functionality. *2019 Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*.
- [C3] Arman Shahbazian, **Daye Nam**, and Nenad Medvidovic. (2018) Toward Predicting Architectural Significance of Implementation Issues. *The 15th International Conference on Mining Software Repositories (MSR)*.

- [C2] **Daye Nam**, Youn Kyu Lee, and Nenad Medvidovic. (2018) EVA: A Tool for Visualizing Software Architectural Evolution. *The 40th International Conference on Software Engineering: Companion Proceedings (ICSE Demo)*.
- [C1] Youn Kyu Lee, Peera Yoodee, Arman Shahbazian, **Daye Nam**, and Nenad Medvidovic. (2017) SEALANT: A Detection and Visualization Tool for Inter-App Security Vulnerabilities in Android. *The 32nd International Conference on Automated Software Engineering (ASE Demo)*. *Best Tool Paper Award*.

Journal Articles

- [J1] **Daye Nam** and Mayank Kejriwal. (2018) How Do Organizations Publish Semantic Markup? Three Case Studies using Public Schema.org Crawls. *IEEE Computer*, vol. 51, no. 6, pp. 42-51.

Lightly-Reviewed Publications

- [L3] **Daye Nam**. (2023) Context-Aware Information Support for Developers. *The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering, Doctoral Symposium (ESEC/FSE DS)*
- [L2] Matin Amoozadeh, David Daniels, Stella Chen, **Daye Nam**, Aayush Kumar, Michael Hilton, Mohammad Amin Alipour, and Sruti Srinivasa Ragavan. (2023) Characterizing Students Trust in Generative Artificial Intelligence. *ACM Conference on International Computing Education Research (ICER LT&P Track)*.
- [L1] Youn Kyu Lee, **Daye Nam**, and Nenad Medvidovic. (2017) Identifying Inter-Component Communication Vulnerabilities in Event-based Systems. *Technical Report*.

Patent

- [P1] Youn Kyu Lee, Nenad Medvidovic, Peera Yoodee, Gholamreza Safi, Arman Shahbazian, Yixue Zhao, Jae Bang, and **Daye Nam**. (2020) SEALAnT: Security for End-Users of Android via Light-Weight Analysis Techniques. *U.S. Patent*, No. 10,827,349

Awards & Honors

- 2023 SIGSOFT CAPS Student Travel Award for FSE 2024, ACM SIGSOFT
- 2023 NSF Travel Award for FSE 2024, NSF
- 2023 NSF Travel Award for ICSE 2023, NSF
- 2020 Nominated for Microsoft Research PhD Fellowship (1 student from CMU-ISR)
- 2020 Nominated for Google PhD Fellowship (1 of 4 students from CMU)
- 2019 Finalist for the Microsoft Research Ada Lovelace Fellowship
- 2019 2nd Place in ASE Student Research Competition, ACM
- 2019 ACM Student Research Competition Travel Award for ASE 2019, ACM
- 2018 SIGSOFT CAPS Student Travel Award for ICSE 2018, ACM SIGSOFT
- 2018 Best Research Award, University of Southern California (2 recipients in CS Department)
- 2017 Academic Excellence Scholarship, Yonsei Alumni Association of Southern California
- 2017 Best Tool Paper Award, ASE 2017
- 2014 – 2015 Academic Excellence Scholarship, Korea Student Aid Foundation
- 2015 Grand Prize, Graduation Exhibition, Computer Science, Yonsei University
- 2013 Outstanding Paper Award, WISSET
- 2013 Academic Excellence Scholarship, Yonsei University

Work Experience

- 05/2021 – **Facebook**, *Software Engineer Intern*.
09/2021 Probability Team, Host: Satish Chandra, Collaborator: Baishakhi Ray
- Designed compositional neural models to predict a sequence of API functions that would be needed for a task, given an input-output pair.
 - Incorporated the compositional models into existing enumerative search-based program synthesizer.
- 06/2020 – **Google**, *Research Scientist Intern*.
08/2020 Cloud DevEx Team, Host: Andrew Macvean, Co-host: Harini Sampath
- Analyzed documentation pageview logs to discover discernible patterns of documentation usage and their correlations with user characteristics and future adoption of APIs.
 - Designed a survey to study developers' documentation preferences and their backgrounds.
- 05/2017 – **University of Southern California**, *Research Assistant*.
07/2018 Software Architecture Research Group, Advisor: Nenad Medvidovic
- Designed and built a tool for visualizing software architecture evolution with contextual information.
 - Investigated architectural design decisions in the issue and code repositories, and built a predictive model which identifies the architectural significance.
 - Built a benchmark for event-based systems' security vulnerability and evaluated existing vulnerability detection tools.
- 05/2017 – **Information Sciences Institute, University of Southern California**, *Research Assistant*.
04/2018 Advisor: Mayank Kejriwal
- Conducted an empirical study on organizations that expose semantically linked Schema.org annotations.
 - Embedded natural language documents as a rich network to improve performance on the multi-class document classification problem.

Service

Organizing Committee, *FSE 2023 (Web chair)*.

Program Committee, *MSR 2021 (Shadow PC)*, *FSE 2021 (Artifact evaluation)*, *MSR 2023 (Junior PC)*.

Journal Review, *Semantic Web Journal 2018*, *UIST 2022 (external)*, *TOSEM 2023*.

Student Volunteer, *ICSE 2018*, *ICSE 2020*, *ICSE 2022*, *ICSE 2023*.

Committee Member, *CMU ISR-SE Ph.D. Admission*, *CMU ISR Teaching-Track Faculty Hiring*.

CMU Graduate Applicant Support Program at SCS, *Department Lead (2020)*, *Mentor (2020, 2021)*, *Organizer (2022-2023)*.

Teaching

Fall 2022 **Co-Instructor**, *17-313 Foundations of Software Engineering*.

Michael Hilton, Rohan Padhye, Chris Timperley, and Daye Nam

- Collaborated with course instructors to enhance course structure, project requirements, and assignments to accommodate a larger class size.
- Delivered 4 lectures on team communication, documentation, ML explainability, and user studies.
- \approx 150 students, 2 sections.

Fall 2021 **Head Teaching Assistant**, *17-313 Foundations of Software Engineering*.

Michael Hilton and Rohan Padhye

- Assisted course instructors in developing midterm and assignment content and delivered a lecture on automated developer tools.
- Created grading rubrics for assignments and exams and supervised a team of 3 undergraduate TAs.
- \approx 70 students.