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

Preprints

[P1] **Daye Nam**, Andrew Macvean, Brad Myers, and Bogdan Vasilescu. (2023) Exploring Documentation Usage via Page-view Log Analysis.

Peer-reviewed Conference Papers

[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 Proceeedings (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	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, WISET
2013	Academic Excellence Scholarship, Yonsei University

Work Experience

05/2021 – 09/2021 **Facebook**, *Software Engineer Intern*.
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 – 08/2020	**Google**, *Research Scientist Intern*.
	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 – 07/2018	**University of Southern California**, *Research Assistant*.
	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 – 04/2018	**Information Sciences Institute, University of Southern California**, *Research Assistant*.
	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.
○ ≈ 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.
○ ≈ 70 students.