

VITA

DATE: June 2023

NAME: Mona Rahimi RANK: Assistant Professor DEPARTMENT: Computer Science
WEBSITES: <https://faculty.cs.niu.edu/~rahimi/> - [Google Scholar](#)

EDUCATION

<u>Degree</u>	<u>Date</u>	<u>Institution</u>	<u>Location</u>
Computer Science (Ph.D.)	2012-2017	University of Notre Dame	South Bend, IN
Computer Science (M.S.)	2009-2011	Southern Illinois University	Carbondale, IL
Computer Science (B.S.)	2003-2007	Tehran University	Tehran, Iran

AREAS OF SPECIALIZATION/RESEARCH INTERESTS:

AI-based Software Engineering, Software Evolution, Requirements Engineering, Safety Assurance

PROFESSIONAL EXPERIENCE:

2019-Present	Assistant Professor	Northern Illinois University	DeKalb, IL
2018-2019	Research Associate	University of Toronto	Toronto, Canada
2017-2018	Lecturer	DePaul University	Chicago, IL

GRANTS AND AWARDS:

- NSF: SHF: EAGER: for Transformative Research: sole PI: "Requirements Domain Specifications for Machine-Learned Software Components," \$146,385 April 2021 - April 2023.
- DoD: Office of Naval Research (ONR), Division of Cyber Security and Complex Software Systems: Basic and Applied Scientific Research: sole PI, "Automated Evolution of the Software's Robustness through Patternizing Attack-and-defend Semantic, Structural, and Functional Co-Evolution," \$488,955, July 2022 - June 2025.

PUBLICATIONS:

- Hamed Barzamini, Mona Rahimi: B-AIS: An Automated Process for Black-box Evaluation of AI-enabled Software Systems against Domain Semantics. IEEE/ACM International Conference on Automated Software Engineering (ASE) 2022: 16:1-16:13
- Mona Rahimi, Michael Vierhauser: Visualization of Aggregated Information to Support Class-level Software Evolution. Elsevier Journal of Software & Systems (J. Syst. Softw) 2022: 192: 111421
- Hamed Barzamini, Mona Rahimi: CADE: The Missing Benchmark in Evaluating Dataset Requirements of AI-enabled Software. IEEE International Requirements Engineering Conference (Requir. Eng) 2022: 27(2): 161-182
- Hamed Barzamini, Mona Rahimi, Murteza Shahzad, Hamed Alhoori: Improving Generalizability of ML-enabled Software through Domain Specification. IEEE/ACM International Conference on AI Engineering–Software Engineering for AI (CAIN) 2022: 181-192

- Samiha Shimmi, Mona Rahimi: Leveraging Code-Test Co-evolution Patterns for Automated Test Case Recommendation. IEEE/ACM International Conference on Automation of Software Test (AST) 2022: 65-76
- Samiha Shimmi, Mona Rahimi: Patterns of Code-to-Test Co-evolution for Automated Test Suite Maintenance. IEEE Conference on Software Testing, Verification and Validation (ICST) 2022: 116-127
- Hamed Barzamani, Murtuza Shahzad, Hamed Alhoori, Mona Rahimi: A Multi-Level Semantic Web for Hard-to-Specify Domain Concept, Pedestrian, in ML-based Software. Requirements Engineering Journal (REJ) 2022: 1-22
- Boyue Caroline Hu, Rick Salay, Krzysztof Czarnecki, Mona Rahimi, Gehan M. K. Selim, Marsha Chechik: Towards Requirements Specification for Machine-learned Perception Based on Human Performance. AIRE@RE 2020: 48-51
- Nelly Bencomo, Alessio Ferrari, Fatma Basak Aydemir, Mona Rahimi: Message from the Organizers. AIRE@RE 2020: viiKokaly, Marsha Chechik: Toward Requirements Specification for Machine-Learned Components. RE: AIRE 2019: 241-244
- Marsha Chechik, Rick Salay, Sahar Kokaly, Mona Rahimi: Software Assurance in an Uncertain World. FASE 2019: 3-2
- Mona Rahimi, Jane Cleland-Huang: Evolving software trace links between requirements and source code. SST@ICSE 2019: 12
- Ankit Agrawal, Seyedehzahra Khoshmanesh, Michael Vierhauser, Mona Rahimi, Jane Cleland-Huang, Robyn R. Lutz: Leveraging artifact trees to evolve and reuse safety cases. ICSE 2019: 1222-1233
- Mona Rahimi, Jane Cleland-Huang: Evolving Software Trace Links between Requirements and Source Code. EMSE 2017
- Mona Rahimi, Wandu Xiong, Jane Cleland-Huang, Robyn Lutz: Diagnosing Assumption Problems in Safety-Critical Products. ASE 2017: 473-484
- Mona Rahimi, Jane Cleland-Huang: Evolving Requirements to Source Code Trace Links in Safety-Critical Domain. Grand Challenges of Traceability 2017
- Jane Cleland-Huang, Mona Rahimi: A case study: Injecting safety-critical thinking into graduate software engineering projects. ICSE-SEET 2017: 67-76
- Mona Rahimi and Jane Cleland-Huang: Artifact: Cassandra Source Code, Feature Description across 27 versions, with Starting and Ending Version Trace Matrices. ICSME 2016: 612
- Mona Rahimi, William Goss and Jane Cleland-Huang: Evolving Requirements-to-Code Trace Links across Versions of a Software System. ICSME 2016: 99-109*Invited to special issue published by the Springer journal Empirical Software Engineering (EMSE)
- Xiaoli Lian, Mona Rahimi, Jane Cleland-Huang, Li Zhang, Remo Ferrari and Michael Smith: Mining Requirements Knowledge from Collections of Domain Documents. RE 2016: 156-165
- Mona Rahimi: Trace link evolution across multiple software versions in safety-critical systems. ICSE (Companion Volume) 2016: 871-874
- Jin Guo, Mona Rahimi, Jane Cleland-Huang, Alexander Rasin, Jane Huffman Hayes, Michael Vierhauser: Cold-start software analytics. MSR 2016: 142-153
- Mona Rahimi and Jane Cleland-Huang: Patterns of Co-evolution between Requirements and Source Code. RePa 2015: IEEE 25-31
- Jane Cleland-Huang, Mona Rahimi, Mehdi Mirakhorli: Ready-Set-Transfer! Technology transfer in the requirements engineering domain. RE 2015: 412-413
- Mona Rahimi, Jane Cleland-Huang: Personas in the middle: automated support for creating personas as focal points in feature gathering forums. ASE 2014: 479-484
- Jane Hayes, Wenbin Li, Mona Rahimi: Weka meets TraceLab: Toward convenient classification: Machine learning for requirements engineering problems: A position paper. RE: AIRE 2014: 9-12
- Mona Rahimi, Mehdi Mirakhorli, Jane Cleland-Huang: Automated extraction and visualization of quality concerns from requirements specifications. RE 2014: 253-262
- Jane Cleland-Huang, Mona Rahimi, Patrick Mäder: Achieving lightweight trustworthy traceability. SIGSOFT FSE 2014: 849-852
- Mona Rahimi, Yanyan Sheng: High Performance Gibbs Sampling for IRT Models Using Row-Wise Decomposition. ISRN Computational Mathematics Volume 2012 (2012), Article ID 264040, 9 pages
- Kyriakos Patsias, Mona Rahimi, Yanyan Sheng, Shahram Rahimi: Parallel Computing with a Bayesian Item Response Model. American Journal of Computational Mathematics, Vol. 2 No. 2, 2012, pp. 65-71.

OTHER PROFESSIONAL INFORMATION:

Community:

- Journal Editor, Journal of Science of Computer Programming (SCP), since 2021
- Program chair, Software and Systems Traceability (SST23) Workshop at 31st International Requirements Engineering Conference (RE), 2023
- Co-organizer, International Conference on AI Engineering (Software Engineering for AI) (CAIN23)
- Program committee member, International Conference on AI Engineering (Software Engineering for AI) (CAIN), 2023
- Panel member, NSF SHF (software and hardware foundation), CCF SHF-SE-2H21-SMALL, 10 proposals discussed, October 2021
- Co-organizer, 29th International Requirements Engineering Conference (RE), 2021
- Co-organizer, 28th International Requirements Engineering Conference (RE): Workshop on Artificial Intelligence for Software Engineering (AIRE), 2020
- Co-organizer, 28th International Requirements Engineering Conference (RE): Artifact Evaluation Track, 2020
- Program committee member, 41st International Conference on Software Engineering (ICSE): Software Engineering Research and Industrial Practice (SER&IP), 2019
- Co-organizer, 41st International Conference on Software Engineering (ICSE): Software and System Traceability: TraceLab Grand Challenge (SST), 2019
- Program committee member, 40th International Conference on Software Engineering (ICSE): Mining Software Repository: Data Showcase (MSR), 2018
- Panel chair, Traceability Datasets and Benchmarks at 2nd Conference on Grand Challenges of Traceability (GCT17)
- Served as program committee at 25th International Requirements Engineering Conference (RE): Data Track, 2017
- Program committee member, 15th International Conference on Machine Learning and Application: Special Session on Machine Learning for Mining Software Repositories (ICMLA), 2016
- Co-chair (web), Foundation of Software Engineering conference (FSE), 2016
- Panel chair, “Ready-Set-Transfer panel” at IEEE International Requirements Engineering Conference (RE), 2015
- Co-organizer, Faculty Research Mixer- School of Computer Science, DePaul University, 2015
- Panel member, NSF REU (Research Experiences for Undergraduates) program in Medical Informatics, hosted by DePaul University, 2015

University:

- Panel member, AI Workshop, NIU Center for Innovative Teaching and Learning, March 2023
- Committee member, Tuition Waiver Review Committee, NIU Graduate School, Spring 2023
- Faculty mentor, Research Rookie Program, NIU Office of Student Engagement and Experiential Learning (OSEEL), Academic Year 2022-2023
- Faculty Member, oneAPI Center of Excellence (CoE), NIU/Intel engagement towards establishing and ratifying projects/deliverables thereof.
- Faculty Member, NIU/Intel partner for Kaggle dataset competition
- Panel member, NIU PCSW (Presidential Commission on the Status of Women, November 2022
- Panel member, NIU coalition for NSF to represent NIU at the congressional visit days, June 2021
- Panel member, NIU NSF-supported STEM undergraduate research students, September 2021

Journal Reviewer:

- Reviewer at IEEE Transactions on Software Engineering (TSE) Journal, January 2019
- Reviewer, Journal of Communications of ACM, Journal of Empirical Software Engineering Journal of IEEE Software and Journal of Requirements Engineering
- Reviewer at IEEE Software Journal, January 2020