Mehdi Tarrit Mirakhorli, Ph.D.

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Areas of Expertise: *Software Engineering, Software Design, Cybersecurity, Software Security, Vulnerability Management, API Design, Implementation and Maintenance, Software Acquisition, Artificial Intelligence, Machine Learning.*

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1. Professional and Administrative Appointments

Associate Professor of Software Engineering   2023-Present
Director of Software Assurance Laboratory
    Information and Computer Sciences
    University of Hawaii at Manoa

(Special) Project Manager   2022 Sept - Dec 2023
    Vulnerability Management (VM) Division
    Cybersecurity and Infrastructure Security Agency (CISA)
    U.S. Department of Homeland Security (DHS)

Director of Research   2022-2023
    ESL Global Cybersecurity Institute (GCI)
    Rochester Institute of Technology

Associate Professor of Software Engineering   2020-2023
    Software Engineering & Global Cybersecurity Institute
    Rochester Institute of Technology

Pro Bono Advisor for Social Impact Ventures   2019-Present
    Knowledge Impact Network

Endowed Kodak Chair of Software Engineering   2019-2023
    Rochester Institute of Technology

Subject Matter Expert (SME), Technical Evaluator   2017-Present
    Numerous Government Agencies, DHS, CISA, NSF, DoD

Founder   2017-Present
    AITEK

Founding Director   2014-Present
    Software Design and Productivity Laboratory
    Rochester Institute of Technology

Assistant Professor of Software Engineering   2014-2019
    Software Engineering & Data Science Department
    Director of Software Design and Productivity Laboratory
    Rochester Institute of Technology

Faculty Fellow   May 2017-August 2017
    Air Fore Research Laboratory (AFRL), Rome, NY

Visiting Scientist   June-August 2014
    Software Engineering Institute and Carnegie Mellon University
    4500 Fifth Ave, Pittsburgh, PA 15213

Researcher   2013-2014
    U.S. Department of Homeland Security (DHS)
    Contractor: DePaul University, Chicago, IL, U.S.A
    Project: Security Architecture Protection Layer

Research Assistant   2009-2013
    Software and Requirements Engineering Center (SAREC)
    School of Computing, DePaul University
    Chicago, IL, U.S.A
    Advisor: *Prof. Jane Cleland-Huang*

Advisory Board Member, Consultant   2014-Present

Various Industries

Adjunct Teaching Faculty 2007- 2009
    Department of Computer Engineering
    Iran University of Science and Technology (IUST), Behshahr, Iran

2. Education

Ph.D., Computer Science, DePaul University, Chicago, IL, U.S.A 2009/2014
M.S., Software Engineering, National University (Shahid Beheshti), Tehran, Iran 2006-2008
B.S., Software Engineering, Teacher Training University of Tehran, Iran 2002-2006

3. Software & Cybersecurity Contracts, Grants and Awards

G20. **U.S. Department of Homeland Security (DHS), Cybersecurity and Infrastructure Security Agency (CISA)**
National Vulnerability Intelligence Platform (NVIP), to support President Biden's Executive Order 14028 (Improving the Nation's Cybersecurity).
Investigator: Mehdi Mirakhorli (Sole PI),
Amount: $4,840,000
Duration: 2022-2023

G19. **U.S. Department of Homeland Security (DHS)**
Hierarchical Software Quality Assurance
Investigators: Mehdi Mirakhorli (PI at RIT and U Hawaii)
Amount: $4,000,000
Duration: 2022-2025

G18. **CAREER, National Science Foundation (NSF)**
CAREER: Synthesizing Architectural Tactics
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: $403,725
Duration: 2020-2025

G17. **National Institutes of Health (NIH), National Institute on Drug Abuse (NIDA)**
A Randomized Controlled Trial of a Digital, Self-Guided, Avatar Assisted - Cognitive Behavioral Therapy Platform to Treat Addiction: Digital RITchCBT vs. Standard CBT
Investigators: Caroline Easton (PI), Linwei Wang (Co-PI), Mehdi Mirakhorli (Co-PI)
Amount: $4,700,000

Duration: 2022-2025

G16. **National Science Foundation (NSF)**
Collaborative Research: EAGER: Towards a Design Methodology for Software-Driven Sustainability and Sustainable Disposal
Investigators: Mehdi Mirakhorli (PI at RIT), Eunsuk Kang (CMU), Pooyan Jamshidi (SC)
Amount: $300,000, CMU/USC, RIT's share $100K.
Duration: 2022-2023

G15. **U.S. Air Force**
CRUISE: Cyber Vulnerability Assessments of System Requirements Specifications (SyRS)
Investigator: Mehdi Mirakhorli (Sole PI)

Amount: $700,000
Duration: 2019-2021

G14. **Defense Advanced Research Projects Agency (DARPA)**
An Architecture-Centric Verification and Reasoning Approach For Resilient Systems
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: $619,034
Duration: 2019-2022

G13. **U.S. Department of Homeland Security (DHS)**
National Vulnerability Intelligence Platform (NVIP)
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: $ 440,294
Duration: 2019-2021

G12. **National Science Foundation (NSF)**
CRI: CI-NEW: Collaborative Research: Constructing a Community-Wide Software Architecture Infrastructure
Sole PI at RIT; Sam Malek (PI at UCI), Joshua Garcia (Co-PI at UCI), Nenad Medvidovic (Lead PI at USC), Rick Kazman (PI at UH), Yuanfang Cai (PI at Drexel), and Lu Xiao (PI at Stevens)
Amount: $1.7M, RIT's share: $374,238
Duration: 2018-2021

G11. **National Science Foundation (NSF)**
SaTC: CORE: Small: Characterizing Architectural Vulnerabilities
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: $439,135
Duration: 2018-2021

G10. **National Science Foundation (NSF)**
REU Site: Cultivating Next Generation Software Engineering Researchers
Investigators: Mehdi Mirakhorli (PI), Mohamed Wiem Mkaouer (co-PI)
Amount: $360,000
Duration: 2017-2020

G9. **U.S. Department of Homeland Security (DHS)**
An Automated Framework for Characterizing Vulnerabilities
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: $160,000
Duration: 2016-2018

G8. **U.S. Department of Homeland Security (DHS)**
Common Architecture Weakness Enumerations
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: Phase II: $43,050, Phase I: $24,833), Total: $67,883
Duration: 2016-2017

G7. **National Science Foundation (NSF)**
CRI:CCF: Planning and Prototyping a Future Instrument for Software Architecture Community (CI-P)
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: $30,000
Duration: 2016-2018

G6. **National Science Foundation (NSF)**
SHF: Bringing Design Thinking into Developers' Coding Activities through an Architectural Tactic Recommender System
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: $80,000
Duration: 2015-2017

G5. **U.S. Department of Homeland Security (DHS)**
Archie: Security Architecture Protection Layer
Investigators: Jane Cleland Huang (PI), Mehdi Mirakhorli (Co-PI)
Amount: $30,000
Duration: First six months of 2014

G4. **Eaton Corporation**
Security Risk Assessment of Vendors Providing Chipsets for Cybersecurity Root of Trust
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: $24,630
Duration: 2021-2022.

G3. **Open Technology Funds Corporation**
Red-Team Information Security Services for Open-source Internet Freedom Software
Investigators: Justin Pelletier (PI), Mehdi Mirakhorli (Co-PI)
Amount: Indefinite Delivery, Indefinite Quantity (IDIQ) contract
Duration: 2021-2022

G2. **RIT**
SMARTSec: a Holistic Framework to Preserve Security Architectures
Investigator: Mehdi Mirakhorli (Sole PI)
Amount: $14,800
Duration 2014-2015

G1. **RIT,** *Cyber Security Research Center, RIT competitive grants for establishing research centers.*
Investigators: Matthew Wright, Mehdi Mirakhorli
Amount: $2,100,000
Duration 2016-2023

4. Awards

- **ACM Distinguished Speaker**, 2022

- **National Science Foundation (NSF) CAREER Award**, 2020.

- **Best Paper Award,** for "Understanding Software Vulnerabilities Related to Architectural Security Tactics: An Empirical Investigation of Chromium, PHP and Thunderbird", IEEE International Conference on Software Architecture (ICSA) 2017.

- **ACM SIGSOFT Distinguished Paper Award**, for "A Tactic-Centric Approach for Automating Traceability of Quality Concerns", IEEE International Conference on Software Engineering (ICSE), 2012.

- **ACM SIGSOFT Distinguished Paper Award**, "On-demand Feature Recommendations derived from Mining Public Product Descriptions", IEEE International Conference on Software Engineering (ICSE), 2011.

- **GCCIS Outstanding Scholar Award. (2019).** This college-wide award for excellence in research and scholarship is awarded to a faculty member in the B. Thomas Golisano College of Computing and Information Sciences (GCCIS).

- **Featured Faculty in RIT's Faculty Scholarship Report. (2018).** Selected by the dean of the Golisano College of Computing and Information Sciences as the faculty member to be featured in the 2018 RIT annual report of scholarship; this annual report lists the publications, research presentations, and research grants of all RIT faculty.

- **PI Millionaires,** designation given to RIT researchers who have achieved funding of $1 million or more since 2000.

- **Named as Most Active Early Stage Software Engineering Researchers,** in Journal of Software and Systems study of Top Scholars and Institutes in Software Engineering, 2018.

5. Publications

[P1]   Beatrice Casey, Joanna Cecilia da Silva Santos, Mehdi Mirakhorli, Hugging Vulnerabilities – An Empirical Study of Security Vulnerabilities in AI Software Models on Hugging Face, Under Consideration.

[P2]   Viktoria Koscinski, Ibrahim Mujhid, Mehdi Mirakhorli, Two Scoring Systems in Vulnerability Management: What Do They Reveal? An Empirical Study Based on Microsoft's Patch Tuesday, Under Consideration.

[P3]   Mohamad Fazelnia, Viktoria Koscinski, Spencer Herzog and Mehdi Mirakhorli, "Exploring the Effectiveness of Large Language Models in Requirement Engineering", Under Consideration.

[P4]   Joanna Santos, Mehdi Mirakhorli, Ali Shokri, Sound Call Graph Construction for Java Object Deserialization, https://arxiv.org/pdf/2311.00943.pdf

[P5]   Joshua Garcia, Mehdi Mirakhorli, Lu Xiao, Sam Malek, Rick Kazman, Yuanfang Cai, Nenad Medvidovic, "SAIN: A Community-Wide Software Architecture INfrastructure," 2023 IEEE/ACM 45th International Conference on Software Engineering: Companion Proceedings (ICSE-Companion), Melbourne, Australia, 2023, pp. 336-337, doi: 10.1109/ICSE-Companion58688.2023.00095.

[P6]   Mehdi Mirakhorli, Schuyler Dillon, Kevin Laporte, Matthew Morrison, Henry Lu, Derek Garcia, Matthew London, Viktoria Koscinski, Christopher Enoch, "A Landscape Study of Open Source and Proprietary Tools for Software Bill of Materials (SBOM)" , **CISA Technical Report**.

[P7]   Viktoria Koscinski, Sara Hashemi, Mehdi Mirakhorli, On-Demand Security Requirements Synthesis with Relational Generative Adversarial Networks (RelGAN), IEEE International Conference on Software Engineering (**ICSE 2023**).

[P8]   Mohamad Fazelnia, Ahmet Okutan, Mehdi Mirakhorli, Supporting AI/ML Security Workers through an Adversarial Techniques, Tools, and Common Knowledge (AI/ML ATT&CK) Framework, IEEE Security & Privacy (**S&P 2022**), To Appear. DOI: 10.1109/MSEC.2022.3221058.

[P9] Sara Moshtari, Ahmet Okutan, Mehdi Mirakhorli, A Grounded Theory Based Approach to Characterize Software Attack Surfaces, IEEE International Conference on Software Engineering (**ICSE 2022**).

[P10] Ahmet Okutan, Peter Mell, Mehdi Mirakhorli, Igor Khokhlov, Joanna CS Santos, Danielle Gonzalez, Steven Simmons, Empirical Validation of Automated Vulnerability Curation and Characterization, in IEEE Transactions on Software Engineering (**TSE**), vol. 49, no. 5, pp. 3241-3260, 1 May 2023, doi: 10.1109/TSE.2023.3250479.

[P11] Davide Taibi, Yuanfang Cai, Ingo Weber, Mehdi Mirakhorli, Michael W. Godfrey, John T. Stough & Patrizio Pelliccione , Continuous Alignment Between Software Architecture Design and Development in CI/CD Pipelines, book chapter in Software Architecture Research Roadmaps from the Community, Patrizio Pelliccione, Rick Kazman, Ingo Weber, Anna Liu (eds), Springer, October 2023.

[P12] Ahmet Okutan, Ali Shokri, Viktoria Koscinski, Mohamad Fazelinia, Mehdi Mirakhorli, A Novel Approach to Identify Security Controls in Source Code. https://arxiv.org/abs/2307.05605

[P13] Joanna Cecilia da Silva Santos, Xueling Zhang, Mehdi Mirakhorli, Counterfeit-Object Oriented Programming Vulnerabilities: An Empirical Study in Java, International Workshop on Mining Software Repositories Applications for Privacy and Security (**MSR4P&S@ESEC/FSE**), 2022.

[P14] Joanna Cecilia da Silva Santos, Selma Suloglu, Nestor Catano and Mehdi Mirakhorli, A Methodological Approach to Verify Architecture Resiliency, 2nd International Workshop on Designing and Measuring Security in Software Architectures (**DeMeSSA**) co-located with ECSA 2022.

[P15] Ahmet Okutan, Mehdi Mirakhorli, Predicting the Severity and Exploitability of Vulnerability Reports using Convolutional Neural Nets, 2022 IEEE/ACM 3rd International Workshop on Engineering and Cybersecurity of Critical Systems (**EnCyCriS 2022**).

[P16] Igor Khokhlov, Ahmet Okutan, Ryan Bryla, Steven Simmons and Mehdi Mirakhorli, Automated Extraction of Software Names from Vulnerability Reports using LSTM and Expert System, 29th Annual IEEE Software Technology Conference (STC 2022).

[P17] Mohamad Fazelnia, Igor Khokhlov, Mehdi Mirakhorli: Attacks, Defenses, And Tools: A Framework To Facilitate Robust AI/ML Systems. RobustML Workshop (**ICLR 2021**).

[P18] Danielle Gonzalez, Paola Peralta Perez, and Mehdi Mirakhorli, Barriers to Shift-Left Security: The Unique Pain Points of Writing Automated Tests Involving Security Controls. In Proceedings of the 15th ACM / IEEE International Symposium on Empirical Software Engineering and Measurement (**ESEM '21**). Association for Computing Machinery, New York, NY, USA, Article 11, 1–12.

[P19] Viktoria Koscinski, Celeste Gambardella, Estey Gerstner, Mark Zappavigna, Jennifer Cassetti, Mehdi Mirakhorli, A Natural Language Processing Technique for Formalization of Systems Requirement Specifications, 2021 IEEE 29th International Requirements Engineering Conference Workshops (**REW 2021**)

[P20] Ali Shokri, Joanna Cecilia da Silva Santos and Mehdi Mirakhorli, ArCode: Facilitating the Use of ApplicationFrameworks to Implement Tactics and Patterns, IEEE International Conference on Software Architecture (**ICSA 2021**).

[P21] Joshua Garcia, Mehdi Mirakhorli, Lu Xiao, Yutong Zhao, Ibrahim Mujhid, Khoi Pham, Ahmet Okutan, Sam Malek, Rick Kazman, Yuanfang Cai and Nenad Medvidovic, Constructing a Shared Infrastructure for Software Architecture Analysis and Maintenance, IEEE International Conference on Software Architecture (**ICSA 2021**).

[P22]   Ali Shokri, Mehdi Mirakhorli, "Arcode: A tool for supporting comprehension and implementation of architectural concerns", 2021 IEEE/ACM 29th International Conference on Program Comprehension (ICPC), https://arxiv.org/pdf/2103.06735

[P23]   Joanna C. S. Santos, Reese A. Jones, Chinomso Ashiogwu, and Mehdi Mirakhorli. 2021. "Serialization-aware call graph construction". In Proceedings of the 10th ACM SIGPLAN International Workshop on the State Of the Art in Program Analysis (SOAP 2021). Association for Computing Machinery, New York, NY, USA, 37–42. https://doi.org/10.1145/3460946.3464319

[P24]   Ali Shokri, Mehdi Mirakhorli, "Depres: A tool for resolving fully qualified names and their dependencies", https://arxiv.org/pdf/2108.01165

[P25]   Devjeet Roy, Ziyi Zhang, Maggie Ma, Venera Arnaoudova, Annibale Panichella, Sebastiano Panichella, Danielle Gonzalez, Mehdi Mirakhorli, DeepTC-Enhancer: Improving the Readability of Automatically Generated Tests, The 35th IEEE/ACM International Conference on Automated Software Engineering (**ASE 2020**).

[P26]   Joanna CS Santos, Ali Shokri, Mehdi Mirakhorli, "Towards automated evidence generation for rapid and continuous software certification", 2020 IEEE International Symposium on Software Reliability Engineering Workshops (ISSREW), 287-294, 2020, https://s2e-lab.github.io/preprints/issrew20-preprint.pdf

[P27]   Jan Keim, Angelika Kaplan, Anne Koziolek and Mehdi Mirakhorli, Does BERT understand code? - An exploratory study on the detection of architectural tactics in code, In 14th European Conference on Software Architecture (**ECSA 2020**).

[P28]   Jan Keim, Angelika Kaplan, Anne Koziolek, Mehdi Mirakhorli, "Using BERT for the detection of architectural tactics in code", KIT Karlsruher Institut für Technologie, Fakultät für Informatik, 2020.

[P29]   S. Moshtari, J. C. S. Santos, M. Mirakhorli and A. Okutan, "Looking for Software Defects? First Find the Nonconformists," *2020 IEEE 20th International Working Conference on Source Code Analysis and Manipulation (SCAM 2020)*, Adelaide, Australia, 2020, pp. 75-86, doi: 10.1109/SCAM51674.2020.00014.

[P30]   Joanna CS Santos, Reese A Jones, Mehdi Mirakhorli, "Salsa: static analysis of serialization features", Proceedings of the 22nd ACM SIGPLAN International Workshop on Formal Techniques for Java-Like Programs, 2020.

[P31]   Joanna Santos, Selma Suloglu, Joanna Ye, Mehdi Mirakhorli, Towards an Automated Approach for Detecting Architectural Weaknesses in Critical Systems, The 1st International Workshop on Engineering and Cybersecurity of Critical Systems (**EnCyCriS 2020**), 2020.

[P32]   Joanna Santos, Sara Moshtari and Mehdi Mirakhorli, An Automated Approach to Recover the Use-case View of an Architecture, 2020 IEEE International Conference on Software Architecture Companion (**ICSA 2020**), Salvador, Brazil, 2020, pp. 63-66, doi: 10.1109/ICSA-C50368.2020.00020.

[P33]   Mehdi Mirakhorli, Matthias Galster, and Laurie Williams. 2020. "Understanding Software Security from Design to Deployment". SIGSOFT Softw. Eng. Notes 45, 2 (April 2020), 25–26. https://doi.org/10.1145/3385678.3385687

[P34]   Joanna Cecilia da Silva Santos, Reese Jones and Mehdi Mirakhorli, Static Analysis of Serialization Features, Formal Techniques for Java-like Programs, 22nd Workshop on Formal Techniques for Java-like Programs (**FTfJP 2020**).

[P35]   Danielle Gonzalez, Michael Rath, Mehdi Mirakhorli, "Did You Remember To Test Your Tokens?" , The International Conference on Mining Software Repositories (**MSR'20**), 2020.

[P36]   Joanna Cecilia Da Silva Santos, Adriana Sejfia, Taylor Corrello, Smruthi Gadenkanahalli and Mehdi Mirakhorli, Achilles' Heel of Plug-and-Play Software Architectures, 27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (**ESEC/FSE'19**), 2019.

[P37]   Danielle Gonzalez, Holly Hastings, Mehdi Mirakhorli, "Automated Characterization of Software Vulnerabilities", 2019 IEEE International Conference on Software Maintenance and Evolution (**ICSME'19**), short paper, 2019.

[P38]   Danielle Gonzalez, Fawaz Alhenaki and Mehdi Mirakhorli, Architectural Security Weaknesses in Industrial Control Systems (ICS): An Empirical Study based on Disclosed Software Vulnerabilities, IEEE International Conference on Software Architecture **(ICSA'19),** 2019.

[P39]   Joanna C. S. Santos, Katy Tarrit, Mehdi Mirahkorli, Matthias Galster, and Adriana Sejfia, "Tactical Vulnerabilities: An Empirical Investigation of Chromium, PHP and Thunderbird", *Journal of Systems and Software – Elsevier*, Impact factor 2.278, 2019.

[P40]   Waleed Zogaan, Ibrahim Mujhid, Joanna C. S. Santos, Danielle Gonzalez, Mehdi Mirakhorli, "Automated Training-Set Creation for Software Architecture Traceability Problem", *Empirical Software Engineering Journal*. Impact factor 4, 2017.

[P41]   Danielle Gonzalez, Joanna CS Santos, Andrew Popovich, Mehdi Mirakhorli, Mei Nagappan, "A large-scale study on the usage of testing patterns that address maintainability attributes: patterns for ease of modification, diagnoses, and comprehension", 2017 IEEE/ACM 14th International Conference on Mining Software Repositories (MSR), https://arxiv.org/pdf/1704.08412.pdf

[P42]   Ibrahim Mujhid, Joanna C. S. Santos, Raghuram Gopalakrishnan, Mehdi Mirakhorli, "A Search Engine for Finding and Reusing Architecturally Significant Code", *Journal of Systems and Software – Elsevier*, 2016.

[P43]   Mehdi Mirakhorli, Jane Cleland-Huang, "Tracing and Visualizing Architectural Tactics in Code", *IEEE Transaction on Software Engineering (TSE),* 2016.

[P44]   Negar Hariri, Carlos Castro-Herrera, Mehdi Mirakhorli, Jane Cleland-Huang, Bamshad Mobasher, "Supporting Domain Analysis through Mining and Recommending Features from Online Product Listings", *IEEE Transaction on Software Engineering (TSE),* 2013, vol. 99, no. PrePrints, p.1, DOI: http://doi.ieeecomputersociety.org/10.1109/TSE.2013.39.

[P45]   Mehdi Mirakhorli, Jane Cleland-Huang, "Traversing the Twin Peaks", *IEEE Software*, vol.30, no.2, pp.30-36, March-April 2013, DOI: 10.1109/MS.2013.40.

[P46]   Jane Cleland Huang, Adam Czauderna, Mehdi Mirakhorli, "Driving Architectural Design and Preservation from a Persona Perspective in Agile Projects", *Agile Software Architecture*, edited by Muhammad Ali Babar, Ivan Mistrik, and Alan Brown, 2014.

[P47]   Mehdi Mirakhorli and Jane Cleland-Huang. "Tracing Non-Functional Requirements", In: Andrea Zisman, Jane Cleland-Huang and Olly Gotel. *Software and Systems Traceability*, Springer-Verlag, 2012.

[P48]   Inayat Rehman, Mehdi Mirakhorli, Meiyappan Nagappan, Azat Aralbay Uulu, and Matthew Thornton. 2018. Roles and impacts of hands-on software architects in five industrial case studies. In Proceedings of the 40th International Conference on Software Engineering (**ICSE '18**). Association for Computing Machinery, New York, NY, USA, 117–127. https://doi.org/10.1145/3180155.3180234

[P49] Matthias Galster, Danny Weyns, Antony Tang, Rick Kazman and Mehdi Mirakhorli, From Craft to Science: The Road Ahead for Empirical Software Engineering Research, International Conference on Software Engineering (**ICSE**), **NIER track**, 2018.

[P50] Yuzhan Ma, Venera Arnaoudova, Mehdi Mirakhorli, Sarah Fakhoury, Mike Christensen and Waleed Zogaan, Automatic Classification of Software Artifacts in Open-Source Applications, The International Conference on Mining Software Repositories (**MSR'18**), 2018

[P51] Raghuram Gopalakrishnan, Palak Sharma, Mehdi Mirakhorli and Matthias Galster, "Can Latent Topics in Source Code Predict Missing Architectural Tactics?", 39th International Conference on Software Engineering (**ICSE'17**), Buenos Aires, Argentina, 2017.

[P52] Joanna C. S. Santos, Mehdi Mirahkorli, Anthony Peruma, Jairo Veloz Vidal, and Matthias Galster, Adriana Sejfia, "Understanding Software Vulnerabilities Related to Architectural Security Tactics: An Empirical Investigation of Chromium, PHP and Thunderbird", The International Conference on Software Architecture (**ICSA'17**) **(Best Paper Award)**.

[P53] Joanna C. S. Santos, Katy Tarrit, Mehdi Mirakhorli, "A Catalog of Security Architecture Weaknesses", In 2017 IEEE International Conference on Software Architecture (**ICSA'17**), 2017.

[P54] Waleed Zogaan, Palak Sharma, Mehdi Mirakhorli and Venera Arnaoudova, Datasets from Fifteen Years of Automated Software Traceability Research (Current State, Characteristics and Quality). 25th IEEE International Requirements Engineering Conference (**RE'17**), 2017.

[P55] Hector Valdecantos, Mehdi Mirakhorli, Katy Tarrit, James O. Coplien, "An empirical study on code comprehension: Data Context Interaction compared to classical Object Oriented" 25th International Conference on Program Comprehension (**ICPC'17**), 2017.

[P56] Danielle Gonzalez, Joanna C.S. Santos, Andrew Popovich, Mehdi Mirakhorli and Mei Nagappan, "An Empirical Study of Unit Test Quality Attributes in Open Source Projects", The 14th International Conference on Mining Software Repositories (**MSR'17**), 2017.

[P57] Joanna C. S. Santos, Mehdi Mirakhorli, Ibrahim Mujhid and Waleed Zogaan, "BUDGET: a Tool for Supporting Software Architecture Traceability Research", 13th Working IEEE/IFIP Conference on Software Architecture (**WICSA'16**), Tool Demonstration, 2016.

[P58] Daniel Krutz, Mehdi Mirakhorli, "Architectural Clones: Toward Tactical Code Reuse", Symposium on Applied Computing, 2016.

[P59] Saeed Namdar, Mehdi Mirakhorli,"Toward Actionable Software Architecture Traceability", The 8th International Symposium on Software and Systems Traceability (**SST'15**), 2015.

[P60] Ehsan Kouroshfar, Mehdi Mirakhorli, Hamid Bagheri, Lu Xiao, Sam Malek, and Yuanfang Cai, "A Study on the Role of Software Architecture in the Evolution and Quality of Software", The 12th Working Conference on Mining Software Repositories (**MSR'15**), 2015.

[P61] Daniel E. Krutz, Mehdi Mirakhorli, Samuel A. Malachowsky, Andres Ruiz, Jacob Peterson, and Andrew Filipski, "A Dataset of Open Source Android Applications", The 12th Working Conference on Mining Software Repositories (**MSR'15**), 2015.

[P62] Mehdi Mirakhorli, Jane Cleland-Huang, "Modifications, Tweaks, and Bug Fixes in Architectural Tactics", The 12th Working Conference on Mining Software Repositories (**MSR'15**), 2015.

[P63] Mehdi Mirakhorli, "Software Architecture Reconstruction: Why? What? How?", 2015 IEEE 22nd International Conference on Software Analysis, Evolution, and Reengineering (**SANER'15**), 2015

[P64] Meiyappan Nagappan, Mehdi Mirakhorli: Big(ger) Data in Software Engineering. ICSE (2) 2015: 957-958.

[P65] Matthias Galster, Mehdi Mirakhorli, M. Galster and M. Mirakhorli, "5th International Workshop on the Twin Peaks of Requirements and Architecture (TwinPeaks 2015)," *2015 IEEE/ACM 37th IEEE International Conference on Software Engineering*, Florence, Italy, 2015, pp. 1017-1018, doi: 10.1109/ICSE.2015.330.

[P66] Robert S. Hanmer , Mehdi Mirakhorli, "Mining New Patterns by Learning from the Trenches", Pattern Languages of Programs (PLoP'14), 2014.

[P67] Matthias Galster, Mehdi Mirakhorli, Jane Cleland-Huang, Xavier Franch, Janet E. Burge, Roshanak Roshandel, and Paris Avgeriou. 2014. Towards bridging the twin peaks of requirements and architecture. SIGSOFT Softw. Eng. Notes 39, 5 (September 2014), 30–31. https://doi.org/10.1145/2659118.2659139

[P68] Mehdi Mirakhorli, Ahmed Fakhry, Artem Grechko, Mateusz Wieloch, Jane Cleland-Huang "Archie: A Tool for Detecting, Monitoring, and Preserving Architecturally Significant Code", 22nd ACM SIGSOFT International Symposium on the Foundations of Software Engineering (**FSE'14**), 2014.

[P69] Mona Rahimi, Mehdi Mirakhorli, Jane Cleland-Huang, "Automated Extraction and Visualization of Quality Concerns from Requirements Specifications", 22nd IEEE International Requirements Engineering Conference (**RE'14**), 2014, IEEE Computer Society.

[P70] Mehdi Mirakhorli, Yonghee Shin, Jane Cleland-Huang and Murat Cinar, "A Tactic-Centric Approach for Automating Traceability of Quality Concerns", 34th International Conference on Software Engineering (**ICSE'12**), 2012 , pp.639-649, DOI: 10.1109/ICSE.2012.6227153, **ACM SIGSOFT Distinguished Paper Award**, (Acceptance rate: 14%).

[P71] Mehdi Mirakhorli, Patrick Maeder, Jane Cleland-Huang, "Variability Points and Design Pattern Usage in Architectural Tactics", 20th ACM SIGSOFT Symposium on the Foundations of Software Engineering (**FSE'12**), SIGSOFT/FSE'12, 2012, DOI=10.1145/2393596.2393657 (Acceptance rate: 17.4%).

[P72] Jane Cleland-Huang, Patrick Maeder, Mehdi Mirakhorli, Sorawit Amornborvornwong, "Breaking the Big-Bang Practice of Traceability: Pushing Timely Trace Recommendations to Project Stakeholders", 20th IEEE International Requirements Engineering Conference (**RE'12**), 2012, IEEE Computer Society, pp.231-240, DOI: 10.1109/RE.2012.6345809, (Acceptance rate: 24%).

[P73] Mehdi Mirakhorli, "Preventing Erosion of Architectural Tactics through Their Strategic Implementation, Preservation, and Visualization", 28th IEEE/ACM International Conference on Automated Software Engineering (**ASE'13**), 2013, pp.762-765.

[P74] Matthias Galster, Mehdi Mirakhorli, Jane Cleland-Huang, Janet E. Burge, Xavier Franch, Roshanak Roshandel, Paris Avgeriou: Views on software engineering from the twin peaks of requirements and architecture. ACM SIGSOFT Software Engineering Notes 38(5): 40-42 (2013).

[P75] Horatiu Dumitru, Marek Gibiec, Negar Hariri, Jane Cleland-Huang, Bamshad Mobasher, Carlos Castro-Herrera, Mehdi Mirakhorli, "On-demand Feature Recommendations derived from Mining Public Product Descriptions", IEEE International Conference on Software Engineering (**ICSE'11**), 2001, pp.81-190, DOI=10.1145/1985793.1985819, **ACM SIGSOFT Distinguished Paper Award**, (Acceptance rate: 14%).

[P76] Mehdi Mirakhorli, Cleland-Huang, "Using Tactic Traceability Information Models to Reduce the Risk of Architectural Degradation during System Maintenance", Proceedings of the 27th International Conference on Software Maintenance (**ICSM'11**), 2011, pp.123-132, DOI: 10.1109/ICSM.2011.6080779, (Acceptance rate: 28%).

[P77] Mehdi Mirakhorli, Jane Cleland-Huang, "Tracing Architectural Concerns in High Assurance Systems (**NIER Track**)", In Proceedings of the 33rd International Conference on Software Engineering (**ICSE'11**), 2011, pp. 908-911, DOI=10.1145/1985793.1985942, (Acceptance rate: 22%).

[P78] Mehdi Mirakhorli, "Tracing Architecturally Significant Requirements: a Decision-Centric Approach", In Proceedings of the 33rd International Conference on Software Engineering (**ICSE '11**), 2011, pp.1126-1127, DOI=10.1145/1985793.1986014.

[P79] Mehdi Mirakhorli, Cleland-Huang, "A Pattern System for Tracing Architectural Concerns", In proceeding of 18th Conference on Pattern Languages of Programs (**PLOP'10**), Portland, OR, USA. 2010.

[P80] Amir Sharifloo, Mehdi Mirakhorli, Fereidoon Shams, "Agility in Iran: Position, Motivation, and Adaption", In Proceeding of 20th Australian Conference on Software Engineering (**AWEC'09**), 2009, (Acceptance rate: 30%).

[P81] Mehdi Mirakhorli, A.R. Khanipoor, Fereidoon Shams, Abbas Mirakhorli, Maryam Pazoki, "RDP Technique: Take a Different Look at XP for Adoption", 19th IEEE Australian Conference on Software Engineering (**AWEC'09**), 2008, pp. 656-662, DOI: 10.1109/ASWEC.2008.4483259, (Acceptance rate: 30%).

[P82] Mehdi Mirakhorli, Amir Azim Sharifloo, Maghsoud Abbaspour, "A Novel Method for Leader Election Algorithm", 7th IEEE International Conference on Computer and Information Technology(**CIT'07**), 2007, pp.452,456, DOI: 10.1109/CIT.2007.86.

[P83] Amir Sharifloo, Mehdi Mirakhorli, Mostafa Esmaeili, Abolfazl T. Haghighat, "A Leader Election Algorithm for Clustered Group", IEEE International Conference on Industrial and Information System (**ICIIS2007**), 2007, DOI: 10.1109/ICIINFS.2007.4579138.

[P84] Mehran Mozafari Kermani, Mehdi Mirakhorli, "Multidisciplinary Approaches and Challenges in Integrating Emerging Medical Devices Security Research and Education", ASEE Conferences: American Society for Engineering Education (ASEE), 2016.

[P85] Scott Hawker, Robert Kuehl, Mehdi Mirakhorli, Merged Software Requirements and Architecture Course, ASEE Conferences: American Society for Engineering Education (ASEE), 2016.

[P86] Jane Cleland Huang, Muhammad Ali Babar, Mehdi Mirakhorli, "An Inverted Classroom Experience: Engaging Students in Architectural Thinking for Agile Projects", *Software Engineering Education and Training (SEET) Track*, 36th International Conference on Software Engineering (ICSE), 2014.

[P87] Joanna Cecilia Da Silva Santos, Selma Suloglu, Joanna Ye, Mehdi Mirakhorli, "Towards an Automated Approach for Detecting Architectural Weaknesses in Critical Systems" International Workshop on Engineering and Cybersecurity of Critical Systems (**EnCyCriS'20**), 2020.

[P88] Danielle Gonzalez; Suzanne Prentice; Mehdi Mirakhorli, A Fine-Grained Approach for Automated Conversion of JUnit Assertions to English, 1st International Workshop on NLP for Software Engineering, co-located with 2018 ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), 2018.

[P89] Danielle Gonzalez, Andrew Popovich, Mehdi Mirakhorli, TestEX: A Search Tool for Finding and Retrieving Example Unit Tests from Open Source Projects, 2016 IEEE 27th International Symposium on Software Reliability Engineering Workshops (ISSREW 2016).

[P90] J. Cleland-Huang, M. Rahimi and M. Mirakhorli, "Ready-Set-Transfer! Technology transfer in the requirements engineering domain," 2015 IEEE 23rd International Requirements Engineering Conference (RE), Ottawa, ON, 2015, pp. 412-413. doi: 10.1109/RE.2015.7320461

[P91] Matthias Galster, Mehdi Mirakhorli, and Nenad Medvidovic. 2017. Bringing Architecture Thinking into Developers' Daily Activities. SIGSOFT Softw. Eng. Notes 41, 6 (January 2017), 24-26. DOI: https://doi.org/10.1145/3011286.3011290.

[P92] Mehdi Mirakhorli, Hongmei Chen and Rick Kazman. "Mining Big Data for Detecting, Extracting and Recommending Architectural Design Concepts", 1st International Workshop on BIG Data Software Engineering, 2015.

[P93] Catherine Ramirez, Meiyappan Nagappan, and Mehdi Mirakhorli, "Studying the Impact of Evolution in R Libraries on Software Engineering Research", 1st International Workshop on Software Analytics, 2015 IEEE 22nd International Conference on Software Analysis, Evolution, and Reengineering (SANER), 2015.

[P94] Mehdi Mirakhorli, "Software architecture reconstruction: Why? What? How?," *2015 IEEE 22nd International Conference on Software Analysis, Evolution, and Reengineering (SANER)*, Montreal, QC, Canada, 2015, pp. 595-595, doi: 10.1109/SANER.2015.7081885.

[P95] Matthias Galster, Mehdi Mirakhorli, Anne Koziolek: Twin Peaks goes Agile. ACM SIGSOFT Software Engineering Notes 40(5): 47-49 (2015).

[P96] Mehdi Mirakhorli, Julia Carvalho, Jane Cleland-Huang, Patrick Maeder, "A Domain-Centric Approach for Recommending Architectural Tactics to Satisfy Quality Concerns", *3rd International Workshop on the Twin Peaks of Requirements and Architecture (TwinPeaks),* 21st IEEE International Requirements Engineering Conference (RE'13), 2013, pp.1-8, DOI: 10.1109/TwinPeaks-2.2013.6617352.

[P97] Jane Cleland-Huang, Mehdi Mirakhorli, Adam Czauderna, Mateusz Wieloch, "Decision-Centric Traceabil-ity of Architectural Concerns", The 7th International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE), Co-located with IEEE International Conference on Software Engineering (ICSE) 2013, pp.5-11, DOI: 10.1109/TEFSE.2013.6620147.

[P98] J. Cleland-Huang, R. S. Hanmer, S. Supakkul and M. Mirakhorli, "The Twin Peaks of Requirements and Architecture," in *IEEE Software*, vol. 30, no. 2, pp. 24-29, March-April 2013.

[P99] Mehdi Mirakhorli, Jane Cleland-Huang , "Transforming Trace Information in Architectural Documents into Re-Usable and Effective Traceability Links", *in Proceedings of the Sixth Workshop on SHAring and Reusing architectural Knowledge*, 33rd International Conference on Software Engineering (ICSE'11), 2011, pp.908-911, DOI=10.1145/1988676.1988685.

[P100] Mehdi Mirakhorli, Jane Cleland-Huang, "A Decision-Centric Approach for Tracing Reliability Concerns in Embedded Software Systems", *In Proceeding of Embedded Software Reliability (ESR)*, held at ISSRE'10, San Jose, Nov, 2010.

[P101] Mehdi Mirakhorli, Abdorrahman Khanipour Rad, Fereidoon Shams, Maryam Pazoki, and Abbas Mirakhorli, "RDP Technique: a Practice to Customize XP", In *Proceedings of the 2008 international workshop on Scrutinizing agile practices or shoot-out at the agile corral* (APOS '08), 30th International Conference on Software Engineering (ICSE'08), 2008, pp. 23-32. DOI=10.1145/1370143.1370149.

[P102] Mehdi Mirakhorli, Amir Azim Sharifloo, and Fereidoon Shams, "Architectural Challenges of Ultra Large Scale Systems", In *Proceedings of the 2nd international workshop on Ultra-large-scale software-intensive systems (ULSSIS '08)*, 30th International Conference on Software Engineering (ICSE'08), 2008,pp.45-48. DOI=10.1145/1370700.1370713.

[P103] Amir Azim Sharifloo, Mehdi Mirakhorli, and Fereidoon Shams, "How could ULS Systems Achieve Architecture Benefits?", In *Proceedings of the 2nd international workshop on Ultra-*

large-scale software-intensive systems (ULSSIS '08), 30th International Conference on Software Engineering (ICSE'08), 2008, pp.41-44. DOI=10.1145/1370700.1370712.

[P104] Fereidoon Shams, Amir Azim Sharifloo, Mehdi Mirakhorli, and Mostafa Emaeli, "A Service Driven Development Process (SDDP) Model for Ultra Large Scale Systems", In *Proceedings of the 2nd international workshop on Ultra-large-scale software-intensive systems (ULSSIS'08),* 30th International Conference on Software Engineering (ICSE'08), 2008, pp.37-40. DOI=10.1145/1370700.1370711.

[P105] Gastón Márquez, Mehdi Mirakhorli, Hernán Astudillo, "Reverse Engineering Microserves-based Software Architectures" Technical Report.

Software Tools

[P106] https://github.com/ArchieProject/Archie-Smart-IDE

Archie is a Smart-IDE to detect and monitor architectural decisions during developers coding activities.

[P107] http://design.se.rit.edu/budget

BUDGET is a Big-data Augmented Dataset Generation technique, designed to support empirical research in the area of software engineering and in particular software traceability.

[P108] http://design.se.rit.edu/TestEx

TestEx is a test-case search engine which indexes millions of test-cases in open source software repositories, enabling the developers effectively search for sample test-cases for a given testing problem.

[P109] design.se.rit.edu/ArchEngine/

ArchiEngine is a search engine that helps developers find sample code snippets implementing architectural decisions known as patterns and tactics. ArchEngine performs better than the state of the art search techniques.

Dissertations

[P110] PhD Dissertation: "Preventing Erosion of Architectural Tactics through their Strategic Implementation, Preservation, and Visualization".

[P111] M.S. Dissertation: "Reliability Prediction of Software Product Line Architecture".

[P112] M.S. Seminar, "Architectural Challenges of Ultra-Large-Scale (ULS) Systems".

[P113] B.Sc. Dissertation: "Performance Optimization in Building Ultra Large Data Warehouses".

6. Service to the Profession: Leadership Roles

S1. *Associate Editor for IEEE Transaction on Software Engineering (TSE)*
S2. *Associate Editor, Empirical Software Engineering Journal (EMSE)*
S3. *Editorial Board for Journal of Software and System (JSS)*
S4. *Associate Editor for IEEE Software Blog on Software Architecture and Requirements.*
S5. *Guest Editor, IEEE Special Issue on TwinPeaks of Requirements and Architecture*
S6. *Program Chair: 3rd International Workshop on Software Security from Design to Deployment.*
S7. *Publicity Chair: International Working Conference on Requirements Engineering: Foundation for Software Quality, 2019.*

S8. *Program Chair: International Workshop on Software Security from Design to Deployment, Co-located with ASE 2019.*

S9. *Program Co-Chair: The Second International Workshop on Establishing a Community-Wide Infrastructure for Architecture-Based Software Engineering, Co-located with ICSE 2019.*

S10. *Data Track Chair: International Requirements Engineering Conference (RE), 2017.*

S11. *Program Chair: International Workshop on Software Security from Design to Deployment, Co-located with ICSE 2018.*

S12. *Program Co-Chair: The First International Workshop on Establishing a Community-Wide Infrastructure for Architecture-Based Software Engineering, Co-located with ICSE 2017.*

S13. *Workshops Chair, FSE 2016: ACM SIGSOFT International Symposium on the Foundations of Software Engineering.*

S14. *General Chair, First International Workshop on Bringing Architecture Design Thinking into Developers' Daily Activities (Bridge'16), 2016.*

S15. *Program Committee Chair, 5th International Workshop on Twin Peaks of Requirements and Architecture, IEEE International Conference on Software Engineering (ICSE), 2015.*

S16. *Program Chair: Technical Briefing on Big(ger) Data in Software Engineering, IEEE International Conference on Software Engineering (ICSE), 2015.*

S17. *Speaker, Software Architecture Reconstruction: Why? What? and How?, 22nd International Conference on Software Analysis, Evolution and Reengineering (SANER), 2015.*

S18. *Co-Organizer, Focused Group on Mining New Patterns, Pattern Languages of Programs (PLoP), 2014.*

S19. *Program Chair: 4th International Workshop on Twin Peaks of Requirements and Architecture, IEEE International Conference on Software Engineering (ICSE), 2014.*

S20. *Program Board Member: 3rd International Workshop on Twin Peaks of Requirements and Architecture, 21st IEEE International Requirements Engineering Conference (RE), 2013.*

S21. *Program Board Member: 2nd International Workshop on Twin Peaks of Requirements and Architecture IEEE International Conference on Software Engineering (ICSE), 2013.*

S22. *Program Chair: 1st International Workshop on Twin Peaks of Requirements and Architecture, 20st IEEE International Requirements Engineering Conference (RE'12), 2012.*

S23. *Student Volunteer Chair, 20th IEEE International Requirements Engineering Conference, September 24th-28th, 2012.*

7. Service to the Profession: Program Committees

S24. *IEEE International Conference on Software Engineering (ICSE 2020).*

S25. *ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE 2020).*

S26. *IEEE International Conference on Automated Software Engineering (ASE 2020).*

S27. *IEEE International Conference on Requirements Engineering (RE 2020).*

S28. *The International Conference on Mining Software Repositories (MSR 2020).*

S29. *IEEE European Conference on Software Architecture (ECSA 2020).*

S30. *IEEE International Conference on Software Architectures (ICSA 2020).*

S31. *IEEE International Conference on Software Maintenance and Evolution (ICSME 2020).*

S32. *IEEE International Conference on Software Architectures (ICSA), Early Career Researchers Forum (ECRF) (ICSA-ECRF 2020).*

S33. *IEEE International Conference on Software Architectures (ICSA 2019).*

S34. *Tool Demonstrations, ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE 2019).*

S35. *European Conference on Software Architecture (ECSA 2019).*

S36. *IEEE International Conference on Automated Software Engineering (ASE 2018).*

S37. *IEEE International Conference on Software Architectures (ICSA 2018).*

S38. *Tool Demonstration Track at the International Conference on Software Engineering (ICSE 2018).*

S39. *IEEE International Conference on Software Maintenance and Evolution (ICSME 2018).*

S40. *IEEE International Conference on Requirements Engineering (RE 2018).*

S41. *International Symposium on Software Testing and Analysis (ISSTA) 2018 Demonstrations Track, 2018.*

S42. *European Conference on Software Architecture (ECSA 2018).*

S43. *IEEE International Conference on Software Architectures (ICSA 2017).*

S44. *23rd International Working Conference on Requirements Engineering: Foundation for Software Quality, 2017.*

S45. *Tool Demonstration Track at the International Conference on Software Engineering (ICSE 2016).*

S46. *Tool Demonstration Track at 31st IEEE/ACM International Conference on Automated Software Engineering (ASE 2016).*

S47. *Eighth International Workshop on Managing Technical Debt, 2016.*

S48. *Software Engineering Education Track at the International Conference on Software Engineering (ICSE 2016).*

S49. *2nd International Workshop on BIG Data Software Engineering, ICSE 2016.*

S50. *8th International Symposium on Software and Systems Traceability (SST' 2015).*

S51. *22nd International Conference on Software Analysis, Evolution and Reengineering (SANER 2015).*

S52. *Early Research Achievements (ERA) track of the 30th International Conference on Software Maintenance and Evolution (ICSME 2015).*

S53. *RE2015-Posters-Tool-Demos, International Requirements Engineering Conference (RE), 2015.*

S54. *1st International Workshop on BIG Data Software Engineering, IEEE International Conference on Software Engineering (ICSE), 2015.*

S55. *Early Research Achievements (ERA) track of the 30th International Conference on Software Maintenance and Evolution (ICSME 2014).*

S56. *Pattern Shepherd, Pattern Languages of Programs Conference (PLoP'13), October 23-26, 2013.*

S57. *7th International Workshop on Traceability in Emerging Forms of Software Engineering. Collocated with IEEE International Conference on Software Engineering (ICSE'13), 2013.*

S58. *Requirements Engineering for Systems, Services, and Systems of Systems (RES^4) at 19th IEEE International Requirements Engineering Conference (RE'10), 2010.*

8. Service to the Profession: Federal & State Agencies

S59. *NCERC Expert, Several occasions*

S60. *R&D Evaluator for European Institutes, Several occasions*

S61. *R&D Evaluator for U.S. Institutes/States, Several occasions*

S62. *Evaluator, SME for National Science Foundation (NSF), U.S. Department of Homeland Security (DHS), U.S. Department of Defense (DoD), several occasions*

9. Service Activities within the University

S63. *Hiring Committee Chair, ICS, University of Hawaii at Manoa*

S64. *Dean's Hiring Committee, Thomas Golisano College of Computing and Information Sciences (GCCIS). 2022*

S65. *Hiring Committee Chair, Software Engineering Department.*
S66. *Establishing DFARS Compliance Facility at Software Design and Productivity Laboratory.*
S67. *New Funding Model for PhD Program, Ad-hoc Committee, Rochester Institute of Technology, 2019.*
S68. *Hiring Committee, Director of Research Computing*
S69. *PhD Curriculum Committee, Rochester Institute of Technology, 2017, 2018.*
S70. *Graduate Curriculum Committee, Software Engineering Department Rochester Institute of Technology, 2017, 2018, 2019, 2020.*
S71. *Tenure-Track Hiring Committee Member, Rochester Institute of Technology, 2017.*
S72. *Tenure-Track Hiring Committee Member, Rochester Institute of Technology, 2016.*
S73. *Tenure-Track Hiring Committee Member, Rochester Institute of Technology, 2015.*
S74. *Graduate Admission Committee Member, Rochester Institute of Technology, 2014-2016.*
S75. *ABET Accreditation Committee, Software Engineering Department, Rochester Institute of Technology, 2015.*
S76. *Lecturer Hiring Committee Member, Rochester Institute of Technology, 2015.*
S77. *Reviewer for College-Wide Seed Grants, Rochester Institute of Technology, 2014.*
S78. *CO-OP Advisor, Rochester Institute of Technology, 2014-Present.*
S79. *Open Houses, Rochester Institute of Technology, 2014-Present.*

10. Research Advisees

Full-Time Research Staff:
- Dr. Selma Suloglu
- Dr. Igor Khokhlov
- Dr. Nestor Catano
- Dr. Ahmet Okutan
- Dr. Sara Moshtari
- Estey Gerstner
- Ibrahim Mujhid
- Chris Enoch
- Matthew Moon
- Tyler Drake
- Ping Liu

Current Ph.D. Students
- Mohamad Fazelnia (2020-Present), AI & Cybersecurity
- Viktoria Koscinski (2020-Present), Software Security

Former Ph.D. Students
- Sarah Moshtari, Postdoctoral Researcher, University of Hawaii, 2023.
- Ali Shokri, Postdoctoral Researcher, Virginia Tech, 2023.
- Joanna Cecilia Santos, 2021, Assistant Professor, **University of Notre Dame**, U.S. News Ranke 20.
- Danielle Gonzalez, 2021, **Recipient of Microsoft Research Fellowship, Security Researcher at Microsoft.**
- Waleed Zogaan, 2019, Assistant Professor, Jazan University

Visiting Ph.D. Students
- Gaston Marquez, (2018-Present), Federico Santa Maria Technical University, Chile

- Keim, Jan, (2019-Present), Karlsruhe Institute of Technology (KIT), Germany
- Andréa Cristina de Souza Doreste (2019-Present), Universidade Federal do Rio de Janeiro, Brazil
- Michael Rath (2019-Present), Technische Universität Ilmenau, Germany

Committee Member
- Harold Valdivia Garcia, Ph.D., RIT, 2016
- Bushra Aloraini, Ph.D., RIT. 2017
- Eman Abdullah Alomar, RIT, 2019
- Hussein Al-Rubaye, Ph.D., RIT, 2020
- Katja Tuma, Gothenburg University, Sweden, 2021

Master and Undergraduate Research Advisees (Bold font: Women in Computing)

1. **Adriana Sejfia**
2. Ali Shokri
3. Amol Pantvaidya
4. Andrew Popovich
5. Anthony Peruma
6. Austin Sierra
7. Azat Aralbay Uulu
8. Carlos Gabriel
9. Cesar Perez
10. Chinmay Singh
11. **Danielle Gonzalez**
12. Nasir Ahmad Safdari
13. Omar Dajani
14. **Palak Sharma**
15. Palash Sanjay Jain
16. Pratham Mehta
17. Pritesh Bora
18. Priyank Kapadia
19. Chinmay Singh
20. Ryan Bryla
21. **Jasmin Gomez Heredia**
22. **Emily Lederman**
23. **Nomso Ashiogwu**
24. Schuyler Dillon
25. Derek Garcia
26. Jared Ebenstein
27. **Kelly Trainor**
28. Michael Pacheco
29. **Manya Kaur Gulati**
30. Fawaz Alhenaki
31. **Joanna Ye**
32. Hitesh Ulhas Vaidya
33. Reese Jones
34. **Celeste Gambardella**
35. **Paola Peralta Perez**
36. Pavan Chappidi
37. Brandon Greet
38. Peter Mastropaolo
39. Garcia-Dubus Mejia
40. **Giovana PucciniÂa**
41. Hector Valdecantos
42. **Heena Farhat Surve**
43. **Holly Hastings**
44. Ibrahim Mujhid
45. Inayat Rehman
46. Jairo Pavel Veloz Vidal
47. Jeffrey Miller
48. **Joanna Santos**
49. **Jodie Miu**
50. Joe Tom Job
51. John Rivera
52. **Ishika Prasad**
53. Harrison Klein
54. **Mugdha Sudhakar**
55. Andrew Pickard
56. Matthew Thornton
57. Viral Parmar
58. Raghuram Gopalakrishnan
59. Rahul Kumar Shinde
60. Rebaz Saber Sale
61. Ronak Shettigar
62. **Shreya Ramesh Kothari**
63. **Smruthi Gadenkanahalli**
64. Steven Simmon
65. **Suzanne Prentice**
66. Talal Alsarrani
67. **Taylor Corrello**
68. **Tegan Ayers**
69. **Tejal Vishnoi**
70. Umang Garg
71. Waleed Zogaan
72. **Wendy Hsia**
73. Adonias Landa
74. **Samantha Reed**

11. Teaching Experience and Curriculum Design

Curricular Development at University of Hawaii:
- Advanced Software Engineering, Fall 2023.

Curricular Development at Rochester Institute of Technology:
- Software Modeling (RIT), Fall 2014.

- Software Requirements and Architecture, Fall 2014, Spring 2016, Spring 2017, Spring 2018.
- Software Architecture and Product line, Fall 2015, Fall 2016, Fall 2017, Fall 2018.
- Software Architecture, Fall 2019, Fall 2020.
- Independent Studies, Spring 2015, Fall 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018.
- Software Engineering for Startups, Spring 2019

As Lecturer at Iran University of Science and Technology (Behshahr Campus):

- Software Engineering Principles, Fall 2008, Fall 2009
- Compiler Construction, Fall 2008, Spring 2009
- Object Oriented Software Development, Fall 2008
- C++ Programming Language, Spring 2008, Spring 2009
- Software Architecture, Spring 2008, Fall 2009
- Advanced Topic in Software Engineering, Spring 2008, Spring 2009

12. Selected Talks

- **Annual Dr. N.H. Paul Chung Memorial Lecture:** What will Artificial Intelligence Mean for Hawaii? Opportunities for Growth, Dangers of Disinformation, and Challenges for the Workplace, ThinkTech Hawaii.
- **Keynote speaker:** "Secure by Design, and Default", DeMeSSA 2023 : The 3rd International Workshop on Designing and Measuring Security in Software Architectures.
- **Keynote speaker:** "Tool Sharing, Composition, and Reproducible Research through Software Architecture INstrument (SAIN)", 2nd International Workshop on Mining Software Repositories for Software Architecture, 2022.
- Lecturer series, University of Notre Dame, "Secure by Design, What it means, what it takes?", 2020.
- **Keynote speaker** at RePa 2017, "Deus ex machina: Reinventing by machine learning", 2017.
- *US Food and Drug Administration (FDA),* "Proactive Approach to Software Security, Privacy and Safety", October 2016.
- *Software Engineering Institute (SEI) Architecture Technology User Network (SATURN) Conference*, "Identifying and Protecting Architecturally Significant Code", May 2014.
- *ALTA Distinguished Speaker*, Alcatel-Lucent, "Software Archeology: Mining Software Repositories to Discover Design Knowledge", August 15, 2013.
- *Research Experiences for Undergraduates (REU),* DePaul University, "Software Engineering Research", Summer 2013.

13. Litigation Consulting

Software Trade Secret Misappropriation, Copyright Infringement, Software Intellectual Property (IP), Commercial Crime– Theft, Software & Cyber Insurance, Artificial Intelligence

14. Professional Memberships

- Association for Computing Machinery, ACM
- ACM Special Interest Group in Software Engineering (SIGSOFT)
- Institute of Electrical and Electronics Engineers (IEEE)