

Joanna C. S. Santos

ASSISTANT PROFESSOR
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
UNIVERSITY OF NOTRE DAME (ND)

✉ joannacss@nd.edu
🔗 <https://joannacss.github.io>
in <https://linkedin.com/in/joannacss>

PROFESSIONAL EXPERIENCE

Assistant Professor <i>University of Notre Dame (ND)</i>	Aug. 2021 – Present Notre Dame, IN. USA
Systems Analyst <i>ACONE - Assessoria e Consultoria Empresarial LTDA</i>	Jan. 2014 – Aug. 2014 Aracaju, SE. Brazil

EDUCATION

Ph.D. in Computing and Information Sciences <i>Rochester Institute of Technology (RIT)</i> Dissertation: <i>Understanding and Identifying Vulnerabilities Related to Architectural Security Tactics</i> Advisor: <i>Dr. Mehdi Mirakhorli</i>	Aug. 2016 – July 2021 Rochester, NY. USA
M.Sc. in Software Engineering <i>Rochester Institute of Technology (RIT)</i> Thesis: <i>Toward Establishing a Catalog of Security Architecture Weaknesses</i> Advisor: <i>Dr. Mehdi Mirakhorli</i>	Aug. 2014 – May 2016 Rochester, NY. USA
B.Sc. in Computer Engineering <i>Federal University of Sergipe (UFS)</i> Undergraduate Thesis: <i>JOnline: An Online Judge for Teaching Programming</i> Advisor: <i>Dr. Admilson R. L. Ribeiro</i>	Jan. 2009 – Oct. 2013 São Cristóvão, SE. Brazil

HONORS & AWARDS

- 🏆 **Distinguished Reviewer Award at ESEC/FSE 2023**
In recognition of outstanding work done throughout the review process.
- 🏆 **Research Pitch Competition at JOBS Workshop 2020**
Won Research Pitch competition at JOBS Workshop (co-located with 53rd IEEE/ACM International Symposium on Microarchitecture - MICRO 2020).
- 🏆 **Best Paper Award at ICSA 2017**
Award to the paper “*Understanding Software Vulnerabilities Related to Architectural Security Tactics: An Empirical Investigation of Chromium, PHP and Thunderbird*”
- 🏆 **Science Without Borders Scholarship (CAPES/IIE/Fullbright)**
Scholarship granted by CAPES (Coordination for the Improvement of Higher Education Personnel) in coordination with IIE and Fullbright to pursue a masters degree at RIT (2014-2016).
- 🏆 **Published paper ranked at 3rd place in WTICGBASE - XIII ERBASE, 2013**
Paper: *A Location Service using the HTML5 Geolocation API*

GRANTS

- › National Vulnerability Intelligence Platform (NVIP) Mar. 2023 – Nov. 2023.
Sponsor: Rochester Institute of Technology (RIT)
Prime Sponsor: Department of Homeland Security (DHS)
Amount: U\$4,840,001.00 (ND's share: U\$ 505,310.73 – Dr. Santos' share: U\$ 276,274.33)
Role: Co-PI (PI: Dr. Taeho Jung, CSE-ND) **
*** Dr. Santos was originally the PI and Prof. Jung was the CO-PI for this grant at the time it was awarded. However, Dr. Jung is temporarily the PI while Dr. Santos is obtaining work authorization by DHS.*

- › Leveraging the Power of LLMs to Generate Security Tests for Mobile Apps Apr. 2024 – May 2025.
Prime Sponsor: Google (Research Scholar Program).
Amount: U\$60,000.00.
Role: solo PI.

- › Quantum-Enabled Software Exploit Synthesis to Detect Object Injection Vulnerabilities May 2024 – May 2025.
Sponsor: Purdue University
Prime Sponsor: IUCRC Center for Quantum Technologies (CQT) Consortium
Amount: U\$ 52,651.
Role: solo PI.

PUBLICATIONS

Advisees are denoted follows: (*) for undergraduates, (e) for graduate students, and (+) for postdoctoral fellows.

REFEREED JOURNAL ARTICLES

- [J4]
TSE 2023 A. Okutan, P. Mell, M. Mirakhorli, I. Khokhlov, **J. C. S. Santos**, D. Gonzalez, and S. Simmons. “Empirical Validation of Automated Vulnerability Curation and Characterization”. In: *IEEE Transactions on Software Engineering (TSE)*. (Submitted: Oct. 2021, Major Revision Decision: May 2022, Submitted for Major Revision: Aug 2022. Submitted for Minor Revision: Jan. 2023. Accepted: Feb 2023). {Impact Factor: 9.322}

- [J3]
JSS 2019 **J. C. S. Santos**, K. Tarrit, A. Sejfia, M. Mirakhorli, and M. Galster. “An empirical study of tactical vulnerabilities”. *Journal of Systems and Software*. Vol. 149, pp. 263–284. (Received Oct. 2017, Revised Sep. 2018, Accepted Oct. 2018, Available online Oct. 2018.) {Impact Factor: 3.5}

- [J2]
JSS 2016 I. J. Mujhid, **J. C. S. Santos**, R. Gopalakrishnan, and M. Mirakhorli. “A search engine for finding and reusing architecturally significant code”. *Journal of Systems and Software (JSS)*. Vol. 130, pp. 81–93. (Received Feb. 2016, Revised Aug. 2016, Accepted Nov. 2016, Available online Nov. 2016). {Impact Factor: 3.5}

- [J1]
EMSE 2016 W. Zogaan, I. J. Mujhid, **J. C. S. Santos**, D. Gonzalez, and M. Mirakhorli. “Automated training-set creation for software architecture traceability problem”. *Empirical Software Engineering (EMSE)*. Vol. 22, Issue 3. pp. 1028–1062. (Received Nov. 2015, Accepted Oct. 2016, Available online Nov. 2016) {Impact Factor: 4.1}

REFEREED CONFERENCE PAPERS (RESEARCH TRACK)

- [C11]
EASE 2024 M. L. Siddiq^(*), **J. C. S. Santos**, R. H. Tanvir^(*), N. Ulfat^(*), F. A. Rifat^(*), V. Lopes^(*). “Using Large Language Models to Generate JUnit Tests: An Empirical Study”. *International Conference on Evaluation and Assessment in Software Engineering (EASE 2024)*. {📍 To appear}
- [C10]
ICPC 2024 M. L. Siddiq^(*), J. Zhang^(*), **J. C. S. Santos**. “Understanding Regular Expression Denial of Service (ReDoS): Insights from LLM-Generated Regexes and Developer Forums”. *International Conference on Program Comprehension (ICPC 2024)*. {📍 To appear}
- [C9]
OOPSLA 2024 **J. C. S. Santos**, M. Mirakhorli, A. Shokri. “Seneca: Taint-Based Call Graph Construction for Java Object Deserialization”. *International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2024)*. {📍 To appear}
- [C8]
SCAM 2022 M. L. Siddiq^(*), S. H. Majumder^(*), M. R. Mim^(*), S. Jajodia^(*), **J. C. S. Santos**. “An Empirical Study of Code Smells in Transformer-based Code Generation Techniques”. *22nd IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2022)*. Limassol, Cyprus. {**Acceptance Rate**: 27%}
- [C7]
ICSA 2021 A. Shokri, **J. C. S. Santos**, and M. Mirakhorli. “ArCode: Facilitating the use of application frameworks to implement tactics and patterns”. In: *IEEE International Conference on Software Architecture (ICSA 2021)*. {**Acceptance Rate**: 26.7%}
- [C6]
SCAM 2020 S. Moshtari, **J. C. S. Santos**, M. Mirakhorli and A. Okutan. “Looking for software defects? First find the nonconformists”. In: *2020 IEEE 20th International Working Conference on Source Code Analysis and Manipulation (SCAM 2020)*, Virtual (due to COVID-19), pp. 75–86.
- [C5]
ESEC/FSE 2019 **J. C. S. Santos**, A. Sejfia, T. Corrello, S. Gadenkanahalli, and M. Mirakhorli. “Achilles’ heel of plug-and-Play software architectures: a grounded theory based approach”. In: *27th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2019)*, Tallinn, Estonia, pp. 671–682. {**Acceptance Rate**: 24.4%}
- [C4]
🏆 ICSA 2017 **J. C. S. Santos**, A. Peruma, M. Mirakhorli, M. Galster, J. V. Vidal and A. Sejfia. “Understanding software vulnerabilities related to architectural security tactics: An empirical investigation of chromium, php and thunderbird”. In: *2017 IEEE International Conference on Software Architecture (ICSA 2017)*, Gothenburg, Sweden, pp. 69–78. **Best Paper Award** {**Acceptance Rate**: 22%}
- [C3]
MSR 2017 D. Gonzalez, **J. C. S. Santos**, A. Popovich, M. Mirakhorli and M. Nagappan. “A large-scale study on the usage of testing patterns that address maintainability attributes: Patterns for ease of modification, diagnoses, and comprehension”. In: *2017 IEEE/ACM 14th International Conference on Mining Software Repositories (MSR 2017)*, Buenos Aires, Argentina, pp. 391–401. {**Acceptance Rate**: 31%}
- [C2]
ITNG 2016 F. M. Ribeiro, T. Rocha, **J. C. S. Santos**, and E. D. Moreno. “A model-driven solution for automatic software deployment in the cloud”. In: *Information Technology: New Generations (ITNG 2016)*, Las Vegas, USA, pp. 591–601. {**Acceptance Rate**: 35%}
- [C1]
EATIS 2012 A. R. Ribeiro, M. T. Chella, L. M. M. Santos, **J. C. S. Santos**, and W. R. Melo. “ERLab: a middleware for remote access electronic laboratories”. In: *Proceedings of the 6th Euro American Conference on Telematics and Information Systems (EATIS 2012)*, Valencia, Spain, pp. 199–205. {**Acceptance Rate**: Not Disclosed}

REFEREED SHORT CONFERENCE PAPERS & WORKSHOP PAPERS

- [W14] MSR Mining Challenge 2024 M. L. Siddiq^(*), L. Roney^(*), J. Zhang^(*), **J. C. S. Santos**. “Quality Assessment of ChatGPT Generated Code and their Use by Developers”. *21st International Conference on Mining Software Repositories – Mining Challenge Track (MSR-Mining Challenge 2024)*. Lisbon, Portugal. {📄 To appear}
- [W13] ICSE NIER 2024 M. L. Siddiq^(*), J. Zhang^(*), L. Roney^(*), **J. C. S. Santos**. “Re(gEx|DoS)Eval: Evaluating Generated Regular Expressions and their Proneness to DoS Attacks”. *46th International Conference on Software Engineering – NIER Track (New Ideas and Emerging Results)*. Lisbon, Portugal. {📄 To appear}
- [W12] NLBSE 2023 M. L. Siddiq^(*), A. Samee^(*), S. R. Azgor^(*), M. A. Haider^(*), S. I. Sawraz^(*), **J. C. S. Santos**. “Zero-shot Prompting for Code Complexity Prediction Using GitHub Copilot”. *2nd International Workshop on Natural Language-based Software Engineering (co-located with ICSE’23)*. Melbourne, Australia.
- [W11] MSR4P&S 2022 M. L. Siddiq^(*), **J. C. S. Santos**. “SecurityEval Dataset: Mining Vulnerability Examples to Evaluate Machine Learning-Based Code Generation Techniques”. *1st International Workshop on International Workshop on Mining Software Repositories Applications for Privacy and Security (co-located with ESEC/FSE’22)*. Singapore.
- [W10] MSR4P&S 2022 **J. C. S. Santos**, X. Zhang, M. Mirakhorli. “Counterfeit Object-Oriented Programming Vulnerabilities: An Empirical Study in Java”. *1st International Workshop on International Workshop on Mining Software Repositories Applications for Privacy and Security (co-located with ESEC/FSE’22)*. Singapore.
- [W9] NLBSE 2022 M. L. Siddiq^(*), **J. C. S. Santos**. “BERT-Based GitHub Issue Report Classification”. *1st International Workshop on Natural Language-based Software Engineering (co-located with ICSE’22)*. Tool Demo. Pittsburgh, PA, USA.
- [W8] DeMeSSA’22 **J. C. S. Santos**, S. Suloglu, N. Catano, and M. Mirakhorli “A Methodological Approach to Verify Architecture Resiliency”. In: *2nd International Workshop on Designing and Measuring Security in Software Architecture (co-located with ECSA’22)*. Prague, Czech Republic. 2022.
- [W7] SOAP’21 **J. C. S. Santos**, R. A. Jones, C. Ashiogwu, and M. Mirakhorli. “Serialization-Aware Call Graph Construction”. In: *10th ACM SIGPLAN International Workshop on the State of the Art in Program Analysis (SOAP)*. Virtual Conference. 2021.
- [W6] FTfJP 2020 **J. C. S. Santos**, R. A. Jones, and M. Mirakhorli. “Salsa: Static analysis of serialization features”. In: *Proceedings of the 22nd ACM SIGPLAN International Workshop on Formal Techniques for Java-Like Programs (FTfJP 2020)*, Virtual (due to COVID-19), pp.18–25.
- [W5] EnCyCriS 2020 **J. C. S. Santos**, S. Suloglu, J. Ye, and M. Mirakhorli. “Towards an automated approach for detecting architectural weaknesses in critical systems”. In: *Proceedings of the IEEE/ACM 42nd International Conference on Software Engineering Workshops – 1st International Workshop on Engineering and Cybersecurity of Critical Systems (EnCyCriS 2020)*., Virtual (due to COVID-19), pp. 250–253.
- [W4] ICSA 2020 **J. C. S. Santos**, S. Moshtari and M. Mirakhorli. “An Automated Approach to Recover the Use-case View of an Architecture”. In: *2020 IEEE International Conference on Software Architecture Companion (ICSA-C 2020)*, Virtual (due to COVID-19), pp. 63–66. ICSA 2020 NEMI Track.

- [W3]
WoSoCer 2020 **J. C. S. Santos**, A. Shokri, and M. Mirakhorli. “Towards Automated Evidence Generation for Rapid and Continuous Software Certification”. In: *Proceedings of the 2020 IEEE International Symposium on Software Reliability Engineering Workshops (ISSREW) – 10th IEEE International Workshop on Software Certification (WoSoCer 2020)*, Virtual (due to COVID-19), pp. 287–294.
- [W2]
ICSAW 2017 **J. C. S. Santos**, K. Tarrit and M. Mirakhorli. “A Catalog of Security Architecture Weaknesses”. In: *Proceedings of the 2017 IEEE International Conference on Software Architecture Workshops (ICSAW 2017)*. Gothenburg, Sweden, pp. 220–223. (ICSA 2017 - Early Career Track).
- [W1]
WICSA 2016 **J. C. S. Santos**, M. Mirakhorli, I. Mujhid, and W. Zogaan. “BUDGET: a Tool for Supporting Software Architecture Traceability Research”. In: *Proceedings of the 13th Working IEEE/IFIP Conference on Software Architecture (WICSA 2016)*, Venice, Italy, pp. 303–306. Tool Demo.

REFEREED TUTORIALS

- [T1]
ESEC/FSE 2022 **J. C. S. Santos**, Dolby, J. “Program analysis using WALA”. In: *30th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)*. Singapore.

REFEREED PUBLICATIONS IN BRAZILIAN CONFERENCES AND WORKSHOPS

- 🏆 ERBASE 2013 **J. C. S. Santos**, S. C. P. Hoentsch, R. A. Nascimento, and A. R. L. Ribeiro. “A Location Service using the HTML5 Geolocation API”. In: *13th Regional School of Computing of the States of Bahia, Alagoas and Sergipe - Scientific Initiation and Undergraduate Works Workshop (XIII Escola Regional de Computação dos Estados da Bahia, Alagoas e Sergipe - Workshop de Trabalhos de IC e de Graduação - ERBASE 2013 - WTICG)*. Aracaju, Brazil. pp. 60–69. **Paper ranked in 3rd place.**
- ERBASE 2012 S. C. P. Hoentsch, A. R. L. Ribeiro, **J. C. S. Santos**, L. L. B. Menezes. “A Mobile Social Network Approach for Research and Education.”. In: *12th Regional School of Computing of the States of Bahia, Alagoas and Sergipe - 10th Workshop on Education and Informatics Bahia-Alagoas-Sergipe (XII Escola Regional de Computação dos Estados da Bahia, Alagoas e Sergipe - X Workshop de Educação e Informática Bahia, Alagoas, e Sergipe - ERBASE 2012 - X WEIBASE)*. Juazeiro, Brazil. pp. 26–33.
- SBIE 2011 **J. C. S. Santos** and A. R. L. Ribeiro. “JOnline: a preliminary approach of an online judge for teaching computer programming”. In: *22nd Brazilian Symposium on Computers in Education (Simpósio Brasileiro de Informática na Educação-SBIE)*. Aracaju, Brazil. pp. 964–967.
- ENINED 2011 **J. C. S. Santos** and A. R. L. Ribeiro (2011). “An online judge approach for teaching computer programming”. In *2nd National Meeting on Informatics and Education (II Encontro Nacional de Informática e Educação - ENINED)*. Cascavel, Brazil. pp. 332–341.
- ENINED 2011 A. R. Ribeiro, M. T. Chella, L. M. M. Santos, **J. C. S. Santos**, and W. R. Melo. “LEW: Web Engineering Laboratory for teaching, research and extension”. *2nd National Meeting on Informatics and Education (II Encontro Nacional de Informática e Educação - ENINED)*. Cascavel, Brazil. pp. 359–368.
- ENINED 2011 S. C. P. Hoentsch, A. R. L. Ribeiro, and **J. C. S. Santos**. “SocialNetLab - A Social Networking Site for Education”. In: *2nd National Meeting on Informatics and Education (II Encontro Nacional de Informática e Educação - ENINED)*. Cascavel, Brazil. pp. 77–84.

TEACHING EXPERIENCE

Course Instructor Aug. 2021 – Present
ND - University of Notre Dame Notre Dame, IN. USA

Courses:

CSE30332: Programming Paradigms (Fall 2021, Fall 2022, Spring 2024)
CSE60770/40770: Secure Software Engineering (Spring 2022, Spring 2023, Fall 2023)

Course Instructor Session 1: May 2012 – Aug. 2012, Session 2: Nov. 2012 – Apr. 2013
Softteam - Empresa Júnior de Informática da UFS São Cristóvão, SE. Brazil
Course: *An Introduction to Java* (**Total Duration:** 48hrs)

Course Instructor Oct. 2011 – Dec. 2011
CAFIS - Centro Acadêmico de Física da UFS São Cristóvão, SE. Brazil
Course: *An Introduction to C++* (**Total Duration:** 20hrs)

Teaching Assistant Jan. 2010 – Dec. 2011
UFS - Federal University of Sergipe São Cristóvão, SE. Brazil

Courses:

COMP0197: Imperative programming (Spring 2010, Spring 2011)
COMP0198: Object-oriented programming (Fall 2010, Fall 2011)

GUEST LECTURES AT RIT

SWEN-440: Software System Requirements and Architecture Engineering

- › **Lectures:** Introduction to Requirements and Architecture Engineering. Architecturally Significant Requirements. Security Architecture Design. Threat Modeling. Security Patterns. Usecase Modeling.

SWEN-610: Introduction to Software Engineering

- › **Lectures:** Research in Software Engineering.

SWEN-755: Software Architecture and Product Lines

- › **Lectures:** Requirements Specification. Google Chromium Architecture. Failure Detection and Recovery. Secure by Design.

INTERNSHIP EXPERIENCE

Intern Software Developer Apr. 2013 – Oct. 2013
ACONE - Assessoria e Consultoria Empresarial LTDA Aracaju, SE. Brazil

Intern in Informatics May 2012 – Apr. 2013
MPF/SE - Office of Federal Prosecution in Sergipe Aracaju, SE. Brazil

SERVICE

SERVICE AT ND

- › **CSE Graduate Admissions Committee** (Aug. 2021 – Present)
- › **Social Media Task Force** (Aug. 2022 - May 2023)
- › **Search Committee for Assistant Professor of the Practice (CSE)** (Jan. 2023 - May 2023)
- › **Judge for the 2022 Hesburgh Libraries Hackathon** (March 2022)
- › **PhD Dissertation Proposal Committee Member:**

- **Sep. 28th, 2023:** *Student:* Wenyi Tang. *Title:* “Towards Secure Decentralized Trust Management of User Identity Information on the Blockchain”. *Advisor:* Taeho Jung.
- **Aug. 2nd, 2022:** *Student:* Aakash Bansal. *Title:* “Improving Automatic Source Code Summarization with Additional Knowledge”. *Advisor:* Collin McMillan.
- **Apr. 26th, 2022:** *Student:* Jonathan Takeshita. *Title:* “Towards Improved Integration of Homomorphic Cryptography and Trusted Hardware”. *Advisor:* Taeho Jung.

› **PhD Dissertation Committee Member:**

- **Oct. 12th, 2021.** *Student:* Rachel Krohn. *Title:* “Dynamics of the Early Life of Online Content”. *Advisor:* Tim Weninger.
- **Sep. 12th, 2023.** *Student:* Jonathan Takeshita. *Title:* “Towards Improved Integration of Homomorphic Cryptography and Trusted Hardware”. *Advisor:* Taeho Jung.
- **Mar. 22nd, 2024.** *Student:* Aakash Bansal. *Title:* “Context-aware models for automatic source code summarization”. *Advisor:* Collin McMillan.

ORGANIZATION COMMITTEE

- › **Publicity Co-Chair:** 18th European Conference on Software Architecture (ECSA 2024)
- › **Tutorial Co-Chair:** 2024 ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2024)
- › **Publicity Chair:** 38th Annual ACM Symposium on Applied Computing – Requirements Engineering Track (ACM SAC RE-Track’23)

PROGRAM COMMITTEE (PC) MEMBER FOR CONFERENCES

- › **Research Track:** 19th ACM ASIA Conference on Computer and Communications Security (AsiaCCS 2024)
- › **Research Track:** 46th IEEE International Conference on Software Engineering (ICSE 2024)
- › **Research Track:** 33rd ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA 2024)
- › **Research Track:** 20th International Conference on Mining Software Repositories (MSR 2023)
- › **Research Track:** 23rd IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2023)
- › **Research Track:** 2023 ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2023)
- › **Research Track:** 20th IEEE International Conference on Software Architecture (ICSA 2023)
- › **Tool Demos Track:** 2022 ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2022)
- › **Artifact Evaluation Track:** 36th IEEE/ACM International Conference on Automated Software Engineering (ASE 2022)
- › **Research Track:** 36th Brazilian Symposium on Software Engineering) (SBES 2022)
- › **NIER and Engineering Tracks:** 22nd IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2022)
- › **Workshops Track:** 30th International Requirements Engineering Conference (RE 2022)
- › **ERA Track:** 30th IEEE/ACM International Conference on Program Comprehension (ICPC 2022)
- › **Posters Track:** 44th International Conference on Software Engineering (ICSE 2022)
- › **ACM Student Research Competition:** 15th Innovations in Software Engineering Conference (ISEC 2022)

- › **Posters Track:** 19th IEEE International Conference on Software Architecture (ICSA 2021)
- › **Artifact Evaluation Track:** 36th IEEE/ACM International Conference on Automated Software Engineering (ASE 2021)
- › **Artifact Evaluation Track:** ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2021)
- › **Research Track:** 15th Brazilian Symposium on Software Components, Architectures, and Reuse (SBCARS 2021)
- › **Engineering Track:** 21st IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2021)
- › **Workshop & Tutorials Track:** 15th European Conference on Software Architecture (ECSA 2021)
- › **Shadow PC Member:** Mining Software Repositories (MSR 2021)

PROGRAM COMMITTEE (PC) MEMBER FOR WORKSHOPS / SYMPOSIUMS

- › 7th Annual Symposium on Machine Programming (MAPS 2024)
- › 3rd International Workshop on Software Engineering and AI for Data Quality in Cyber-Physical Systems/Internet of Things (SEA4DQ 2023)
- › 1st International Workshop on Software Vulnerability Management (SVM 2023)
- › 3rd International Workshop on Software Security from Design to Deployment (SEAD 2020)
- › 2nd International Workshop on Software Security from Design to Deployment (SEAD 2019)

REVIEWER

- › Journal of Data and Information Quality (JDIQ)
- › Empirical Software Engineering (EMSE)
- › IEEE Transactions on Software Engineering (TSE)
- › ACM Transactions on Software Engineering and Methodology (TOSEM)
- › Software Testing, Verification and Reliability (STVR)
- › IEEE Software (Special Issue: Diversity Crisis in Software Development - 2020)
- › (External Reviewer) 6th IEEE European Symposium on Security and Privacy (Euro S&P 2021)
- › (Sub-reviewer) 36th International Conference on Software Maintenance and Evolution (ICSME 2020)
- › (Sub-reviewer) 14th European Conference on Software Architecture (ECSA 2020)

OTHER

- › **Aug. 2021 – Present:** Member of the Open Science Initiative Board for the Journal of Systems and Software (JSS).
- › **2012-2013:** Member of the Computer Engineering Collegiate Board. Computer Science Department at the Federal University of Sergipe (UFS)

STUDENT VOLUNTEER

- › 36th International Conference on Software Maintenance and Evolution (ICSME 2020)
- › 20th IEEE Int'l. Working Conference on Source Code Analysis and Manipulation (SCAM 2020)
- › International Conference on Software Engineering (ICSE 2019)
- › Brazilian Symposium on Computers in Education (SBIE 2011)

STUDENTS

GRADUATE STUDENTS

Beatrice Casey <i>PhD Student</i>	Aug. 2022 – Present University of Notre Dame (ND)
Vinicius Carvalho Lopes <i>PhD Student</i>	Jan. 2022 – Present University of Notre Dame (ND)
Mohammed Latif Siddiq <i>PhD Student</i>	Jan. 2022 – Present University of Notre Dame (ND)
Luka Cvetko <i>Master Student</i>	Jan. 2024 – Present University of Notre Dame (ND)

UNDERGRADUATE STUDENTS

Neol Gutierrez <i>Undergraduate Research Assistant</i>	Jan 2024 – Present University of Notre Dame (ND)
Sajith Devareddy <i>Undergraduate Research Assistant</i>	Jan 2024 – Present University of Notre Dame (ND)
Matthew Spadafore <i>Undergraduate Research Assistant</i>	Jan 2024 – Present University of Notre Dame (ND)
Miguel Jose Maninang <i>Undergraduate Research Assistant</i>	Jan 2024 – Present University of Notre Dame (ND)
Lindsay Roney <i>Undergraduate Research Assistant</i>	Aug 2023 – Present University of Notre Dame (ND)
Jiahao Zhang <i>(Visiting) Undergraduate Research Assistant</i>	Aug 2023 – Dec. 2023 Southern University of Science and Technology (SUSTech)
Anna Muller <i>Undergraduate Research Assistant</i>	Aug 2023 – Dec. 2023 University of Notre Dame (ND)
Dan Krill <i>Undergraduate Research Assistant</i>	Aug 2023 – Dec. 2023 University of Notre Dame (ND)
Claudia Kuczun <i>Undergraduate Research Assistant</i>	Aug 2023 – Dec. 2023 University of Notre Dame (ND)
George Perry <i>Undergraduate Research Assistant</i>	Aug. 2022 – Dec. 2023 University of Notre Dame (ND)
Eva Gorzkiewicz <i>Undergraduate Research Assistant</i>	May 2023 – Nov. 2023 University of Notre Dame (ND)
Mark Rumsey <i>Undergraduate Research Assistant</i>	May 2023 – Nov. 2023 University of Notre Dame (ND)
Angel Ortiz <i>Undergraduate Research Assistant</i>	May 2023 – Aug. 2023 University of Notre Dame (ND)
Emmanuel de La Paz <i>Undergraduate Research Assistant</i>	May 2023 – Aug. 2023 University of Notre Dame (ND)
Desereé Frink-Larcart <i>Undergraduate Research Assistant</i>	Jan. 2023 – May 2023 University of Notre Dame (ND)

Mark Cheng
Undergraduate Research Assistant

Jan. 2022 – May 2022
University of Notre Dame (ND)

Joshua Agron
Undergraduate Research Assistant

Aug. 2021 – May 2022
University of Notre Dame (ND)

Megan Campbell
Undergraduate Research Assistant

Aug. 2021 – Dec. 2021
University of Notre Dame (ND)

MENTORSHIP EXPERIENCE (PRIOR TO JOINING ND)

All mentees supervised in conjunction with Dr. Mehdi Mirakhorli (RIT).

* Mentorship as part of the REU site at RIT (“Cultivating Next Generation Software Engineering Researchers”).

Chinomso Ashiogwu *
Undergraduate Research Assistant

May 2020 – May 2021
University of Maryland - Baltimore County (UMBC)

Reese A. Jones
Undergraduate Research Assistant

Dec. 2018 – Jul. 2019 // Jan. – Oct. 2020 // Jan. 2021 – May 2021
Rochester Institute of Technology (RIT)

Joanna Ye *
Undergraduate Research Assistant

Jun. 2019 – Oct. 2019
Rochester Institute of Technology (RIT)

Jasmin Gomez Heredia *
Undergraduate Research Assistant

Jun. 2019 – Aug. 2019
California State University - Sacramento (CSUS)

Omar Dajani *
Undergraduate Research Assistant

Jun. 2018 – Mar. 2019
Rochester Institute of Technology (RIT)

Wendy Hsia *
Undergraduate Research Assistant

Jun. 2018 – Oct. 2018
Seattle University (SU)

Smruthi Gadenkanahalli
Graduate Research Assistant

Nov. 2017 – May. 2018
Rochester Institute of Technology (RIT)

Taylor Corrello
Graduate Research Assistant

Dec. 2017 – May. 2018
Rochester Institute of Technology (RIT)

Jairo Pavel Veloz Vidal
Graduate Research Assistant

Jan. 2016 – Jan. 2017
Rochester Institute of Technology (RIT)

INVITED TALKS, TUTORIALS & PANELS

- › **May 7th, 2024:** How to Give a Job Talk. *Future Faculty Workshop at ND*. **Panel**
- › **May 2nd, 2024:** . GSCAR. **Invited Talk**
- › **March 27th, 2024:** Understanding and Evaluating Generated Regular Expressions and their Proneness to Denial-of-Service (DoS) Attacks. *Weekly Academic Seminar. Federal University of Sergipe (UFS)*. **Invited Talk**
- › **September 30th, 2023:** Exploring the Effectiveness of Large Language Models in Generating Unit Tests. *PrograMaria Summit 2023*. Virtual. **Invited Task**
- › **November 17th, 2022:** Program Analysis using WALA. *ESEC/FSE 2022, Singapore*. **Tutorial**
- › **November 1st, 2022:** (In)Secure by Design: Challenges in Engineering Secure Software Systems. *ECE Seminar. Purdue University. West Lafayette, IN*. **Invited Talk**
- › **October 4th, 2022:** Academic Challenges and Opportunities. *2nd Latin American School on Software Engineering. Virtual*. **Panel**
- › **September 23rd, 2022:** Choose wisely: code smells in automatically generated code. *It Will Never Work in Theory (co-located with the Strange Loop 2022 conference). St. Louis, MO*. **Invited Talk**
- › **June 23rd, 2022:** Challenges in Engineering Secure Software Systems. *Applied Computing Seminar at the National Institute for Space Research (INPE)*. Virtual. **Invited Talk**

- › **May 31st, 2022:** BERT-Based GitHub Issue Report Classification. *Weekly Academic Seminar. Federal University of Sergipe (UFS)*. Virtual. **Invited Talk**
- › **April 28th, 2022:** Preparing for Faculty Interviews. *Women and gender minorities in Computing Club (WinCC) from the University of Southern California (USC)*. Virtual. **Panel**
- › **November 16th, 2021:** Engineering (In)Secure Software Systems. *Federal Institute of Parana (IFPR - Paranavaí Campi)*. . Virtual. **Invited Talk**
- › **October 15th, 2021:** Achilles' Heel of Plug-and-Play Software Architectures: A Grounded Theory Based Approach. *Federal University of Sergipe (UFS)*. Virtual. **Invited Talk**
- › **September 30th, 2021:** Secure by Design. *12th Brazilian Conference on Software: Practice and Theory (CBSoft)*. . Virtual. **Invited Tutorial**
- › **May 28th, 2021:** Serialization-Aware Call Graph Construction. *Weekly Academic Seminar. Federal University of Sergipe (UFS)*. . Virtual. **Invited Talk**
- › **June 28th, 2019:** Challenges faced in graduate school and how I overcame them. *2019 REU Graduate Study and Research Symposium. Rochester Institute of Technology (RIT)*. **Panel**
- › **June 22nd, 2018:** Challenges faced in graduate school and how I overcame them. *2018 REU Graduate Study and Research Symposium. Rochester Institute of Technology (RIT)*. **Panel**

PROFESSIONAL DEVELOPMENT ACTIVITIES

- › **May 9th – 10th, 2024:** 2024 NSF SaTC Aspiring PI Workshop. *Chicago, IL. USA*.
- › **November 2nd – 4th, 2023:** CRA-WP Career Mentoring Workshop. *Chicago, IL. USA*.
- › **February 24th – 25th, 2022:** CRA Career Mentoring Workshop. *Washington, DC. USA*.
- › **January 3rd – 4th, 2022:** National Effective Teaching Institute – Introduction to Successful Teaching for STEM Faculty (NETI-1A). *Virtual*.
- › **August 15th & July 25th, 2022:** NDR Faculty Development Workshop. Session #3: Hallmarks of Successful Applications & Session #4: NDR Support for Researchers . *University of Notre Dame. Notre Dame, IN*.
- › **August 16th – 17th, 2021:** New Faculty Teaching Workshop. *The Kaneb Center for Teaching Excellence at the University of Notre Dame. Notre Dame, IN. USA*.
- › **November 18th, 2021:** Using Vocareum with Canvas for Teaching with Jupyter Notebooks. *University of Notre Dame. Virtual*.
- › **September 16th, 2021:** Gathering Early Semester Feedback Workshop. *The Kaneb Center for Teaching Excellence at the University of Notre Dame. Notre Dame, IN. USA*.