Mitra Bokaei Hosseini

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Research Interests

My research aims to specify and design software to comply with policy, law, and users' needs and expectations in a trustworthy and reliable manner. My research specifically spans different domains, including **software engineering**, **privacy**, and **natural language processing**.

Education

- 2014-2019, Ph.D., Computer Science, University of Texas at San Antonio (UTSA).
  - Thesis Topic*: Information Retrieval and Semantic Inference from Natural Language Privacy Policies and Code*
- 2009-2011, M.S., Information Technology, K.N.Toosi University of Technology, Tehran, Iran.
- 2004-2008, B.S., Information Technology, Qazvin Islamic Azad University, Qazvin, Iran.

Academic Experience

- August 2022-present, Assistant Professor, Computer Science Department, UTSA.
- August 2019-2022, Assistant Professor, Computer Science Department, St. Mary's University (StMU).
- Fall 2019, Redesigned and taught CS2313 Object Oriented Programming I.
- Fall 2019, Redesigned and taught CS2323 Object Oriented Programming II.
- Spring 2020, Redesigned, updated more than 90% of the material, and taught CS4368/CS6368 Cybersecurity Policy and Law Course according to Cybersecurity standards to review the interactions among policy, law and technology on personal privacy.
- Fall 2020, Redesigned, updated more than 90% of the material, and taught CS3310/CS6310 System Analysis and Design course to meet advances in software engineering.
- 2016-May 2019, Research Assistant, Software Engineering and Formal Method Lab, UTSA.
- Spring 2018, Redesigned CS 3773 Software Engineering course material based on an online textbook by Ivan Marsic, UTSA.
- Spring 2014-Spring 2018, TA, Software Engineering (CS 5103), Data Analysis and Visualization using MATLAB (CS 1173), UTSA.
- Spring 2014-Spring 2018, Instructor/TA, CS 2121 Data Structures Recitation, CS 1711 Introduction to Computer Programming II Recitation, UTSA.

Research Internships

- Summer 2018, **Research Intern**, International Computer Science Institute, affiliated with UC Berkeley. Collaborating with Dr. Serge Egelman.
- Summer 2016, **Research Intern**, Institute of Software Research, Carnegie Mellon University. Collaborating with Dr. Travis Breaux.

Proposals

- In preparation: NSF Centers of Research Excellence in Science and Technology (CREST Centers)
- In preparation: NSF Career Proposal: Maintaining Software Applications through Requirements Copilot

- In preparation: NSF Collaborative Research: CPS: Small: A Privacy Negotiation Platform for a Heterogeneous Network of Smart Home Applications.
- Awarded: Broadening Female Participation in Computer Science, Jan 2024-2025.
- Awarded: NSF SCC-PG: Bridge: An AI-Enabled Platform to Support Connected Communities for Coordinated Care of Children with Autism, 2023.
- Awarded: NSF Collaborative Research: SaTC: CORE: Medium: Narrowing the Gap Between Privacy Expectations and Reality in Mobile Health, 2021-2025.
- Awarded: StMU Internal Faculty Research Grant (IFRG) of $5,000: Automatic Extraction of GUI Field labels for Developer and End-User Privacy Risk Mitigation, 2019-2020.
- Awarded: StMU Undergraduate Summer Research Fellowship (SURF) Program of $1,000: Identifying and Classifying Third-party Entities in Natural Language Privacy Policies, Summer 2020.

Publications

- Revising to Resubmit: Pragyan K C, Rocky Slavin, Sepideh Ghanavati, Travis Breaux, **Mitra Bokaei Hosseini**, An Analysis of Automated Use Case Component Extraction from Scenarios using ChatGPT, 32nd IEEE International Requirements Engineering Conference, 2024.
- Preparing to Submit: **Mitra Bokaei Hosseini**, Travis Breaux, Book Chapter for NLP4RE: Privacy Requirements Acquisition and Analysis, 2023.
- Preparing to Submit: Gabriel Morales, Pragyan K C, Sadia Latif, **Mitra Bokaei Hosseini**, Rocky Slavin, Analyzing the Gap between Privacy Policies and Code Practices, FSE 2024.
- In Progress: Julia Brend, **Mitra Bokaei Hosseini**, Mobin Javed, Alisa Frik, Telehealth Mobile App Users' Expectation vs. Reality, ACM Transactions on Computer-Human Interaction, 2024.
- In Progress: **Mitra Bokaei Hosseini**, Travis Breaux, An Ontology of Personal Information, ACM Transactions on Software Engineering and Methodology, 2024.
- Accepted: Tianjian Huang, Vaishnavi Kaulagi, **Mitra Boakei Hosseini**, Travis Breaux, Mobile Application Privacy Risk Assessment from User-authored Scenarios, 31st IEEE International Requirements Engineering Conference, 2023.
- **Mitra Bokaei Hosseini**, John Heaps, Rocky Slavin, Travis Breaux and Jianwei Niu, Ambiguity and Generality in Natural Language Privacy Policies, 29th International IEEE Requirements Engineering Conference, September 2021.
- **Mitra Bokaei Hosseini**, Rocky Slavin, Travis Breaux, Xiaoyin Wang, Jianwei Niu, Analyzing Privacy Policies through Syntax-Driven Semantic Analysis of Information Types, Information and Software Technology (IST) Journal, Elsevier, April 2021.
- **Mitra Bokaei Hosseini**, Rocky Slavin, Travis Breaux, Xiaoyin Wang, Jianwei Niu, Disambiguating Requirements through Syntax-Driven Semantic Analysis of Information Types, **Distinguished Paper Award,** 26th International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ), Pisa, Italy, March 24-27, 2020.
- **Mitra Bokaei Hosseini**, Pragyan KC, Irwin Reyes, Serge Eagleman, Identifying and Classifying Third-party Entities in Natural Language Privacy Policies, In Proceedings of the Second Workshop on Privacy in NLP (pp. 18-27) at EMNLP 2020 Conference, November 19, 2020.
- **Mitra Bokaei Hosseini**, Semantic Inference from Natural Language Privacy Policies and Android Code, ESEC/FSE 2018 Doctoral Symposium.
- **Mitra Bokaei Hosseini**, Xue Qin, Xiaoyin Wang, Jianwei Niu, Extracting Information Types from Android Layout Code Using Sequence to Sequence Learning, Statistical Modeling of Natural Software Corpora Workshop, AAAI 2018.

- **Mitra Bokaei Hosseini**, Travis D. Breaux, Jianwei Niu, Inferring Ontology Fragments from Semantic Role Typing of Lexical Variants, REFSQ 2018.
- Xiaoyin Wang, Xue Qin, **Mitra Bokaei Hosseini**, Rocky Slavin, Travis D. Breaux and Jianwei Niu, GUILeak: Tracing Privacy-Policy Claims on User Input Data for Android Applications, ICSE 2018.
- **Mitra Bokaei Hosseini**, Sudarshan Wadkar, Travis D. Breaux, Jianwei Niu, Lexical Similarity of Information Type Hypernyms, Meronyms and Synonyms in Privacy Policies, 2016 AAAI Fall Symposium Series.
- Rocky Slavin, Xiaoyin Wang, **Mitra Bokaei Hosseini**, James Hester, Ram Krishnan, Jaspreet Bhatia, Travis D. Breaux and Jianwei Niu, PVDetector: A Detector of Privacy-policy Violations for Android Apps, in Proceedings of MobileSoft 2016.
- Rocky Slavin, Xiaoyin Wang, **Mitra Bokaei Hosseini**, James Hester, Ram Krishnan, Jaspreet Bhatia, Travis D. Breaux and Jianwei Niu, Toward a Framework for Detecting Privacy Policy Violation in Android Application Code, in Proceedings of ICSE 2016.

Conference Posters

- **Mitra Bokaei Hosseini,** Collaborative Research: SaTC: CORE: Medium: Narrowing The Gap Between Privacy Expectations and Reality in Mobile Health, National Science Foundation (NSF) Secure and Trustworthy Cyberspace (SaTC) PI meeting, June 2022.
- **Mitra Bokaei Hosseini,** Semantic Inference from Natural Language Privacy Policies and Android Code, ESEC/FSE 2018.
- **Mitra Bokaei Hosseini,** Toward a Framework for Identifying Trace Links between Privacy Policy and Android Application Code, Grace Hopper Celebration 2018.
- **Mitra Bokaei Hosseini,** Toward a Framework for Identifying Trace Links between Privacy Policy and Android Application Code, College of Sciences Research Conference (COS) 2018, University of Texas at San Antonio.
- **Mitra Bokaei Hosseini,** Semantic Inference from Natural Language Privacy Policies (**Best Poster Award**), College of Sciences Research Conference (COS) 2017, University of Texas at San Antonio.
- **Mitra Bokaei Hosseini,** Lexical Similarity of Information Type Hypernyms, Meronyms and Synonyms in Privacy Policies, College of Sciences Research Conference (COS) 2016, University of Texas at San Antonio.

Guest Lectures/ Conference Talks

- Spring 2022, On the Verifiability, Traceability, and Trustworthiness of Software, Center for Security and Analytics, UTSA College of Business.
- Fall 2021, Ambiguity and Generality in Natural Language Privacy Policies, 29th International IEEE Requirements Engineering (RE) Conference.
- Summer 2020, Disambiguating Requirements through Syntax-Driven Semantic Analysis of Information Types, Privacy and Legal requirements Session, 26th International Conference on Requirements Engineering for Software Quality (REFSQ).
- Summer 2020, Privacy by Design in Software Engineering Life Cycle, Intercontinental Webinar Series, Department of Computer Science, Kristu Jayanti College.
- Fall 2020, Semantic Inference from Natural Language Privacy Policies, Privacy Engineering - Regulatory Compliance Lab (PERC_Lab), University of Maine.
- Fall 2020, Panelist, San Antonio University Women in IT Symposium.
- Fall 2020, Identifying and Classifying Third-party Entities in Natural Language Privacy Policies, PrivateNLP at EMNLP 2020 Conference.

- Spring 2020, Information Retrieval and Semantic Inference from Natural Language Privacy Policies and Code, The Jose Miguel Cimadevilla Memorial Seminar Series, StMU.
- Fall 2019, Artificial Intelligence: Using Machine Learning and Neutral Networks to Enhance Your Business, In Data: Privacy, Ethics, Trust & Money Conference 2019, The Conference Board, NY.
- Fall 2019, Ethical Challenges in Machine Learning, Computer Science Seminar Series, StMU.
- Fall 2018, Semantic Inference from Natural Language Privacy Policies and Android Code, ESEC/FSE 2018 Doctoral Symposium.
- Spring 2018, Extracting Information Types from Android Layout Code Using Sequence to Sequence Learning, Statistical Modeling of Natural Software Corpora Workshop, AAAI.
- Spring 2018, Guest Lecture, CS 5103 Software Engineering Course, UTSA.
- Fall 2016, Lexical Similarity of Information Type Hypernyms, Meronyms and Synonyms in Privacy Policies, 2016 AAAI Fall Symposium Series.
- Fall 2016, Lexical Similarity of Information Type Hypernyms, Meronyms and Synonyms in Privacy Policies, College of Sciences Research Conference (COS) 2016, UTSA.
- Fall 2014, Guest Lecture, CS 1711 Introduction to Computer Programming II course, UTSA.

Recognition

- Distinguished Paper Award, 26th International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ) 2020.
- National Science Foundation Travel Award to attend ESEC/FSE 2018.
- UTSA Graduate Student Professional Development Award to attend ESEC/FSE 2018.
- Student scholarship award to attend Grace Hopper Celebration 2018.
- Travel support award to attend Hot Topics in the Science of Security Symposium 2018.
- Travel support award to attend the Workshop on Statistical Modeling of Natural Software Corpora, AAAI 2018.
- Best graduate poster among 40 presenters in Computer Science and Cyber Security, College of Sciences Research Conference, UTSA 2017.
- One of five Carlos Alvarez Scholarship summer 2017 recipients among all 50 Ph.D. students in the computer science department, UTSA.
- Travel award to attend AAAI Fall Symposium Series 2016.

Professional Service

- Review committee member, ACM Transactions on Privacy and Security, 2021-2022.
- Designer and instructor, Artificial Intelligence and Data Science summer camps, 2020-2022.
- Review committee member, Requirements Engineering Journal, 2021.
- Program committee member, PrivateNLP Workshop, EMNLP, 2021.
- Program committee member, PrivateNLP Workshop, NAACL, 2021.
- Program committee member, Poster Track, the 43rd International Conference on Software Engineering (ICSE), 2021.
- Program committee member, Artifact Track, the 28th IEEE International Requirements Engineering (RE) Conference, 2020.
- Review committee member, Artifact Track, the 28th IEEE International Requirements Engineering (RE) Conference, 2020.
- Judge, the Alamo Regional Science and Engineering Fair (ARSEF), 2020.
- Program committee member, Computer Science Symposium, StMU, 2019-2021.
- Program committee member, PAL: Privacy-Enhancing Artificial Intelligence and Language Technologies, AAAI Spring Symposium, 2019.

- Review committee member, PAL: Privacy-Enhancing Artificial Intelligence and Language Technologies, AAAI Spring Symposium, 2019.
- Sub-reviewer for IEEE Transactions on Software Engineering (TSE), 2019.

Committee and Volunteering Experience

- Fall 2022-present, Graduate Success Studies Committee Member, Computer Science Department, UTSA.
- Spring 2023, Masters Supervisory Committee Member, Computer Science Department, UTSA.
- Fall 2022, PhD proposal Committee Member, Computer Science Department, UTSA.
- Spring 2021, Designed the Data Science Undergraduate Track in the Computer Science Department, StMU.
- Summer 2021, Member of the Core Curriculum revising task force to change the language of Section 1.7.3.5 Core Curriculum Committee of the Faculty Handbook, StMU.
- Fall 2020, Member of the NSA/DHS designation working group, StMU.
- Fall 2019, Computer Science Exhibit, Core IV Event, StMU.
- Fall 2019, Computer Science Showcase, Office of Admissions, StMU.
- Summer 2020-present, Mentorship and advising five Computer Science, StMU.
- Fall 2017-present, Research mentor of two Graduate students in computer science, UTSA.
- Fall 2015-Fall 2017, Vice President of Computer Science Graduate Student Association (CSGSA), UTSA.
- Fall 2016- Fall 2017, Graduate Collaborator of Association for Computing Machinery – Women (ACM-W), UTSA.
- Hopper (volunteer), Grace Hopper Celebration 2016.
- Fall 2015, Programming instructor at San Antonio Youth Code Jam.

Certifications

- Information Security Management (ISMS) Auditor/Lead Auditor (In Accordance with ISO 27001:2005, TUV Nord, License A17242/2013/037)
- ITIL Foundation in IT Service Management, PEOPLECERT, GR750008444MB

References

- Dr. Jianwei Niu, Professor of Computer Science, University of Texas at San Antonio
- Dr. Travis Breaux, Associate Professor of Computer Science, Institute for Software Research, Carnegie Mellon University
- Dr. Xiaoyin Wang, Associate Professor of Computer Science, University of Texas at San Antonio