

CONTACT INFORMATION	<p><i>Email:</i> rocky.slavin@utsa.edu</p> <p><i>Web:</i> cs.utsa.edu/~rslavin</p> <p><i>Google Scholar:</i> galadriel.cs.utsa.edu/~rslavin/scholar</p>
RESEARCH INTERESTS	<ul style="list-style-type: none"> • Software Engineering • Cyber Security • Privacy • Internet of Things
EDUCATION	<p>Doctor of Philosophy, Computer Science August 2017</p> <p>Department of Computer Science University of Texas at San Antonio, San Antonio, TX</p> <ul style="list-style-type: none"> • <i>Advisor:</i> Dr. Jianwei Niu • <i>Dissertation Title:</i> Applying Semantic Analysis for the Alignment of Natural Language Privacy Policies with Android Application Code <p>Bachelor of Science, Computer Science May 2012</p> <p>Department of Computer Science University of Texas at San Antonio, San Antonio, TX</p> <ul style="list-style-type: none"> • <i>Concentration:</i> Computer and Information Security
APPOINTMENTS	<p>The University of Texas at San Antonio, San Antonio, TX</p> <ul style="list-style-type: none"> • Assistant Professor August 2020 - Present • Assistant Professor of Practice September 2017 - August 2020
TEACHING	<p>As a first-gen Hispanic faculty member and founding member of the UTSA Department of Computer Science's Student Success Committee, I have worked to establish goals and strategies for student recruitment and diversity which I employ in the classroom. My teaching has historically focused on undergraduates and their preparation for careers in industry. However, I also strive to expose such students to the academic world which many are unaware of. In this way, I have successfully recruited all of my graduate students directly from undergraduate programs.</p> <p>CS4413 - Web Technologies</p> <ul style="list-style-type: none"> • Course Creator • This course was created in response for specific student demand for me to offer it. In response, I specifically designed the course to prepare students for industry standards. This included the construction of a bare-metal hypervisor using spare or marked-for-surplus parts to host individual virtual machines for each student to practice deployment in a similar environment as in industry. • During the first offering of this course, I received a 4.98 out of 5.0 student evaluation with 52 of 70 students responding. Notably, this was during the first semester as a tenure track professor and the course was conducted online due to the Covid pandemic. • <i>Mean Student Evaluation:</i> 4.7/5.0 • <i>Description:</i> Fundamentals of Web and component technology: markup languages, layout design, client and server side programming, database and Web integration.

CS4683 - Secure Software Development and Analysis

- Course Creator
- Created as part of UTSA's designation as a Center for Academic Excellence in Cyber Operations (CAE-CO) by the National Security Agency (NSA).
- *Mean Student Evaluation:* 4.6/5.0
- *Description:* Analysis of software for vulnerabilities. Development of robust, secure software. Topics include source and binary code analysis, static and dynamic code analysis techniques, testing methodologies, secure programming principles and practices.

CS3423 - Systems Programming

- Course Coordinator
- *Mean Student Evaluation:* 4.7/5.0
- *Description:* Concepts and knowledge on system booting, memory management, process and scheduling, interrupt handling, system calls, file systems, networking, device drivers and module programming. Runtime systems. Programming kernel modules in Linux.

CS3773 - Software Engineering

- *Mean Student Evaluation:* 4.54/5.0
- *Description:* Introduction to different aspects of software engineering with the concentration on processes, methods, and tools for developing reliable software-centered systems. Study of software development process models, project management, a variety of modeling notations, requirement analysis, architecture design methods, and testing techniques.

STUDENTS

- **Christopher De Leon** **2021 - present**
 - Ph.D. Student
 - *Topic:* IoT Privacy
- **Gabriel Morales** **2021 - present**
 - Ph.D. Student
 - *Topic:* IoT Privacy
- **Tyler Frank** **2020 - present**
 - M.S. in Cybersecurity Science Student
 - *Topic:* Zigbee IoT Vulnerabilities
- **Christopher Crabtree** **2019-2021**
 - Post-Baccalaureate
 - *Topic:* Automated Mapping of Information Types to Sensitive API Methods
- **Samuel Eastwood** **2021**
 - Undergraduate Independent Study
 - NSF REU
 - *Topic:* Mobile Privacy
- **Heila Shahidi** **2021**
 - Undergraduate Independent Study
 - *Topic:* Natural Language Privacy Policies
 - Internship Sponsorship
 - *Internship:* MITRE

- **Chelsea Flores** **2021 (graduated)**
 - M.S. Student
 - *Topic:* Natural Language Processing Applied to the Description-to-Behavior Fidelity Problem
- **Eddie Martinez** **2020 (graduated)**
 - M.S. Student
 - *Topic:* Mobile Application Privacy Policy Violation Detection and Privacy Policy Generation
- **Sang Choi** **2020 (graduated)**
 - M.S. Student
 - *Topic:* Searchable Encryption for Cloud Providers
- **Graeson Smith** **2021**
 - Internship Sponsorship
 - *Internship:* BIF Technologies
- **Craig Parker** **2021**
 - Undergraduate Independent Study
 - *Topic:* Android App–Policy Repository
- **Brian King** **2021**
 - Undergraduate Independent Study
 - *Topic:* Android App–Policy Repository
- **Kevin Jones** **2021**
 - Internship Sponsorship
 - *Internship:* ManTech
- **David Akusu** **2020**
 - Internship Sponsorship
 - *Internship:* MITRE
- **Emma Brown** **2020**
 - Internship Sponsorship
 - *Internship:* Southwest Research Institute
- **Oscar Ortiz** **2020**
 - Internship Sponsorship
 - *Internship:* Northrop Gumman Corp
- **Mark Conrad** **2020**
 - Internship Sponsorship
 - *Internship:* Chevron
- **Brian King** **2020**
 - Internship Sponsorship
 - *Internship:* United Health Group
- **Geoffrey Sessums** **2019**
 - Undergraduate Independent Study
 - *Topic:* Web Technology – REST APIs

- **Vishalkumar Patel** **2019**
 - Undergraduate Independent Study
 - *Topic:* Web Technology – REST APIs
- **Seth Greco** **2018–2019**
 - Undergraduate Independent Study
 - *Topic:* Web Technology – REST APIs
- **Yenjea Jung** **2018**
 - Electrical Engineering Senior Design Project
 - *Topic:* Raspberry Pi Home Security Web Service
- **Daniel Mancera** **2018**
 - Electrical Engineering Senior Design Project
 - *Topic:* Raspberry Pi Home Security Web Service
- **Javier Gonzales** **2018**
 - Electrical Engineering Senior Design Project
 - *Topic:* Raspberry Pi Home Security Web Service
- **Ben Barela** **2018**
 - Undergraduate Independent Study
 - *Topic:* SQL Injection and OWASP ZAP
- **Isaac Butriago** **2018**
 - Internship Sponsorship
 - *Internship:* Southwest Research Institute
- **Bryce Bosen** **2018**
 - Internship Sponsorship
 - *Internship:* HEB
- **Adrian Martinez** **2018**
 - Undergraduate Independent Study
 - *Topic:* Unity Game Development
- **Jonathan Trejo** **2018**
 - Undergraduate Independent Study
 - *Topic:* iOS App Development
- **Bryan Burkhardt** **2018**
 - Undergraduate Independent Study
 - *Topic:* Laravel Web Development
- **Michael Geyer** **2018**
 - Graduate Independent Study
 - *Topic:* Canonicalization of Privacy Terms

Refereed Journal Publications

- [1] Mitra Bokaei Hosseini, **Rocky Slavin**, Travis D. Breaux, and Jianwei Niu. Analyzing Privacy Policies through Syntax-Driven Semantic Analysis of Information Types. In: *Information and Software Technology*. 2021.
- [2] Hui Shen, Ram Krishnan, **Rocky Slavin**, and Jianwei Niu. Sequence Diagram Aided Security Policy Specification. In: *IEEE Transactions on Dependable and Secure Computing (TDSC)*, vol 13, No 3, pp 381-393, 2015.

Refereed Conference Proceedings

- [3] Mitra Bokaei Hosseini, John Heaps, **Rocky Slavin**, Travis D. Breaux, and Jianwei Niu. Ambiguity and Generality in Natural Language Privacy Policies. In: *29th IEEE International Requirements Engineering Conference (RE)*, 2021.
- [4] Xueling Zhang, Xiaoyin Wang, **Rocky Slavin**, Jianwei Niu. ConDySTA: Context-Aware Dynamic Supplement to Static Taint Analysis. In: *42nd IEEE Symposium on Security and Privacy (S&P)*, 2021.
- [5] **Distinguished Research Paper Award** Mitra Bokaei Hosseini, **Rocky Slavin**, Travis D. Breaux, Xiaoyin Wang, and Jianwei Niu. Disambiguating Requirements through Syntax-Driven Semantic Analysis of Information Types. In: *26th International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ)*, 2020.
- [6] **SIGSOFT Research Highlight** Xueling Zhang, Xiaoyin Wang, **Rocky Slavin**, Travis D. Breaux, and Jianwei Niu. How Does Misconfiguration of Analytic Services Compromise Mobile Privacy? In: *42nd ACM/IEEE International Conference on Software Engineering (ICSE)*, 2020.
- [7] Xiaoyin Wang, Xue Qin, Mitra Bokaei Hosseini, **Rocky Slavin**, Jaspreet Bhatia, Travis D. Breaux, and Jianwei Niu. GUILeak: Tracing Privacy Policy Claims on User Input Data for Android Applications. In: *40th ACM/IEEE International Conference on Software Engineering (ICSE)*, pp 37-47, 2018.
- [8] **Rocky Slavin**, Xiaoyin Wang, Mitra Hosseini, William Hester, Ram Krishnan, Jaspreet Bhatia, Travis D. Breaux, and Jianwei Niu. Toward a Framework for Detecting Privacy Policy Violations in Android Application Code. In: *38th ACM/IEEE International Conference on Software Engineering (ICSE)*, pp 25-36, 2016.
- [9] **Rocky Slavin**, Xiaoyin Wang, Mitra Hosseini, William Hester, Ram Krishnan, Jaspreet Bhatia, Travis D. Breaux, and Jianwei Niu. PVDetector: A Detector of Privacy Policy Violations for Android Apps. In: *IEEE/ACM International Conference on Mobile Software Engineering and Systems (MOBILESoft)*, pp 299-300, 2016.
- [10] **Rocky Slavin**, Jean-Michel Leher, Jianwei Niu, and Travis D. Breaux. Managing Security Requirements Patterns using Feature Diagram Hierarchies. In: *22nd IEEE International Requirements Engineering Conference (RE)*, pp 193-202, 2014.

Refereed Workshop Proceedings

- [11] Steven O'Hara and **Rocky Slavin**. Modernizing Parsing Tools: Parsing and Analysis with Object-Oriented Programming. In: *8th ACM SIGPLAN International Workshop on the State Of the Art in Program Analysis (SOAP'19)*, 2019.

- [12] **Rocky Slavin**, Hui Shen, and Jianwei Niu. Characteristics and Boundaries of Security Requirements Patterns. In: *2nd International Workshop on Requirements Patterns (RePa)*, 2012.

Technical Reports

- [13] **Rocky Slavin**, Xiaoyin Wang, Mitra Bokaei Hosseini, Jianwei Niu, Jaspreet Bhatia, Travis D. Breaux. PoliDroid-AS: A Privacy Policy Alignment Plugin for Android Studio. Technical Report CSTR-2017, University of Texas at San Antonio Department of Computer Science, 2017.
- [14] Hanan, Hibshi, **Rocky Slavin**, Jianwei Niu, Travis D. Breaux. Rethinking Security Requirements in RE Research. Technical Report CSTR-2014-001, University of Texas at San Antonio Department of Computer Science, 2014.
- [15] Hui Shen, Ram Krishnan, **Rocky Slavin**, and Jianwei Niu. Sequence Diagram Aided Security Policy Specification. Technical Report CSTR-2014-005, University of Texas at San Antonio Department of Computer Science, 2014.

Posters and Fast Abstracts

- [16] Chris Crabtree, **Rocky Slavin**, Xiaoyin Wang, Jianwei Niu. Using Deep Learning to Bridge the Semantic Gap between Natural Language and Code: An Automated Approach to Improve Privacy Policy Misalignment Scalability. In: *National Science Foundation Secure and Trustworthy Cyberspace PI Meeting*, 2019.
- [17] Xueling Zhang, **Rocky Slavin**, Xiaoyin Wang, and Jianwei Niu. Privacy assurance for Android Augmented Reality Apps. In: *24th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC'19)*., 2019.
- [18] John Heaps, **Rocky Slavin**, and Xiaoyin Wang. Toward a Code Pattern Based Vulnerability Measurement Model. In: *Proceedings of the 23rd ACM Symposium on Access Control Models and Technologies (SACMAT'18)*., 2018.
- [19] **Rocky Slavin**, Xiaoyin Wang, Mitra Bokaei Hosseini, William Hester, Ram Krishnan, Jaspreet Bhatia, Travis D. Breaux, and Jianwei Niu. Toward a Framework for Detecting Privacy Policy Violation in Android Application Code. In: *University of Texas at San Antonio, College of Sciences Research Conference*, 2015.
- [20] Jean-Michel Lehker, **Rocky Slavin**, and Jianwei Niu. Integration of Security Pattern Selection Practices with Pattern Storage. In: *Symposium and Bootcamp on the Science of Security (HotSoS)*, 2014.
- [21] **Rocky Slavin**, Jean-Michel Lehker, and Jianwei Niu. Managing Security Requirements Patterns using Feature Diagram Hierarchies. In: *University of Texas at San Antonio, College of Sciences Research Conference*, 2013.
- [22] **Rocky Slavin**, Hui Shen, and Jianwei Niu. Characteristics and Boundaries of Security Requirements Patterns. In: *University of Texas at San Antonio, College of Sciences Research Conference*, 2012.

ARTICLES AND INTERVIEWS

- Ryan Schoensee. “Good to Know: Rocky Slavin”, Catalyst, 2022.
- **Rocky Slavin**. “Transparent Traffic Monitoring with Honeynets”, IEEE Academy on Internet of Things (IoT), 2021.
- Paul Flahive. “UTSA Team Develops Tool Analyzing App Privacy”, Texas Public Radio, 2016.
- **Rocky Slavin**. “Does your Android App Collect More than it Promises to?”, IEEE Software Blog, 2016.

CONFERENCE
TALKS

- “Toward a Framework for Detecting Privacy Policy Violations in Android Application Code”, *28th ACM/IEEE International Conference on Software Engineering (ICSE)*, 2016, Austin, USA.
- “Managing Security Requirements Patterns using Feature Diagram Hierarchies”, *22nd IEEE International Requirements Engineering Conference (RE)*, 2014, Karlskrona, Sweden.
- “Characteristics and Boundaries of Security Requirements Patterns”, *2nd International Workshop on Requirements Patterns (RePa) co-located with 20th IEEE International Requirements Engineering Conference (RE)*, 2012, Chicago, USA.

INVITED TALKS

- “Toward a Framework for Detecting Privacy Policy Violation in Android Application Code”, *University of Texas at San Antonio, College of Sciences Research Conference*, 2015, USA.
- “Characteristics and Boundaries of Security Requirements Patterns”, *University of Texas at San Antonio, College of Sciences Research Conference*, 2012, USA.

GRANTS

- **Co-PI:** New Venture Fund: Capacity Accelerator Network: Building an Open, Modular, Experiential, Data Science Social Impact Curriculum Mitigation in the Presence of Malicious AI Attacks
\$115,000 **2022–2023**
- **Co-PI:** NSA: Automated Techniques for Cyber Risk Detection and Mitigation in the Presence of Malicious AI Attacks
\$500,000 **2021–2022**
- **Co-PI:** DoD: A Flexible Testbed for Cyber Deception, Cyber Hardening, and Disinformation Research
\$600,000 **2021**
- **Co-PI:** NSA: Cyber Defense of Smart Facilities Using Machine Learning and IoT Honeynets
\$175,000 **2020–2021**
- **PI:** NSF: CRII: SaTC: Automatic Generation of API to Natural Language Data Type Mappings for Developer and End User Privacy Risk Mitigation
\$175,000 **2020–2023**
\$8,000 (REU Supplement) **2021**
- **Senior Personnel:** MSRDC, Department of the Army: A Pattern-Based measurement Model for Improving Software Reliability
(PI: Jianwei Niu) **2017–2018**

HONORS AND
AWARDS

- CS Department T/TT Faculty Teaching Award **2022**
- Working Conference on Requirements Engineering:
Foundation for Software Quality Distinguished Research Paper Award **2020**
- Carlos Alvarez Graduate Fellowship **2017**
- ACM SIGSOFT CAPS Award **2016**
- Armed Forces Communications and Electronics Association Cyber Security Scholarship **2014–2015**

- Armed Forces Communications and Electronics Association Cyber Security Scholarship **2013–2014**
- Graduate Diversity Recruitment Fellowship **2012–2013**
- Armed Forces Communications and Electronics Association Cyber Security Scholarship **2011–2012**
- HEB Developer Challenge First Place Recipient **2011**
- University of Texas at San Antonio President’s List **Fall 2009**
- University of Texas at San Antonio Dean’s List **Spring 2005**

INDUSTRY
EXPERIENCE

Sciencenter Technologies

Co-Founder/Volunteer **2015–Present**

- Created web-based system for management of thousands of science fairs with tens of thousands of users for various states.
- Designed form wizard for assisting middle and high school students in complying with International Science and Engineering Fair (ISEF) rules.
- Managed multiple cloud servers.
- Implemented REST API for third-party support.
- Currently not employed by Sciencenter, but help on volunteer basis

UTSA - Center for Research and Training in the Sciences

Program Specialist **January 2010 to September 2012**

- Developed web applications used to maintain and facilitate the 2010, 2011, and 2012 ExxonMobil Texas Science and Engineering Fair website.
- Managed data for over 4,000 users using custom MySQL/PHP tools.
- Created registration and payment applications for multiple events.
- Managed web servers using Apache 2.0 and IIS 7 on several Linux and Windows machines.

Computational Biology Initiative

System Administrator Assistant/Web Developer **2009–2010**

- Created registration system for user management.
- Responsible for scripts used in managing various Unix systems used for high performance computing.
- Installed and managed various servers to ensure high availability.
- Assisted administrator in system troubleshooting.

SKILLS

General Programming and Scripting Languages

- C, C#, C++, Java, Perl, PHP, Python 2 and 3, JavaScript, Bash

Web Technology

- Django, Laravel, CSS, PHP, NodeJS, ReactJS, JavaScript, JQuery, AJAX, ExpressionEngine, Apache2

Database Technology

- MySQL, MariaDB, Microsoft SQL, SQLite, Eloquent ORM

Model Checking

- NuSMV

Productivity Applications

- T_EX (L_AT_EX, B_IB_TE_X), Vim, most common productivity packages (for Windows and Linux platforms)

Scientific, Engineering, and Statistical Applications

- MATLAB, SolidWorks

Operating Systems

- Microsoft Windows, Linux, and other UNIX variants