

## Jianwei Niu, Ph.D.

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Dr. Jianwei Niu is a professor of computer science at the University of Texas at San Antonio (UTSA). She has established a successful, productive academic career since she obtained her Ph.D. from University of Waterloo in 2005. Her teaching was recognized at UTSA by **the President's Distinguished Achievement Award for Teaching Excellence** in 2009. She has been the **principal investigator of nine research grants, totaling \$1.9 Million**. Her research has been funded by NSF, NSA, DoD, Texas Higher Education Coordinating, and Microsoft Inc. The common thread running through her research projects has been applying rigorous, yet usable specification and verification techniques (formal methods) to improve software dependability, in particular, security and privacy policy design and enforcement. She has published more than 50 peer-reviewed publications in highly-selective venues, including ACM Transaction on Information and System Security (TISSEC), IEEE Transactions on Dependable and Secure Computing (TDSC), IEEE Transactions on Software Engineering (TSE), Journal of Computer Security, and ACM/IEEE International Conference on Software Engineering (ICSE). She has served as Program Committee Chair and Members, Proceeding Chair, Demonstration Chair, Poster Chair, and Panel Chair for many security and software engineering conferences. **She has been supervising eleven Ph.D. students and six of them successfully completed their Ph.D. degrees** under her supervision.

### (a) PROFESSIONAL PREPARATION

University of Waterloo	Waterloo, Canada	Computer Science	Ph.D.	05/2005
Jilin University	Changchun, P.R. of China	Computer Science	B.S.	07/1988

### (b) APPOINTMENTS

- 09/2017-Present, Professor, Dept. of Computer Science, University of Texas at San Antonio (UTSA)
- 09/2012-08/2017, Associate Professor, Dept. of Computer Science, UTSA
- 06/2005-08/2012, Assistant Professor, Dept. of Computer Science, UTSA

### (c) SELECTED PUBLICATIONS

- Wang, X., Qin, Q., Bokaei Hosseini, M., Slavin, R., Breaux, T. and Niu, J. (2018) "GUILeak: Tracing Privacy-Policy Claims on User Input Data for Android Applications", *40th ACM/IEEE International Conference on Software Engineering (ICSE)*, 12 pages.
- Johnson, C., MacGahan, T., Heaps, J., Baldor, K., von Ronne, J., & Niu, J. (2017) "Verifiable Assume-Guarantee Privacy Specifications for Actor Component Architectures". *22nd ACM symposium on Access Control Models and Technologies (SACMAT)*: pp. 167-178.
- Slavin, R., Wang, X., Bokaei Hosseini, M., Hester, J., Krishnan, R., Bhatia, J., Breaux, T., & Niu, J. (2016) "Toward a Framework for Detecting Privacy Policy Violation in Android Application Code". *38th ACM/IEEE International Conference on Software Engineering (ICSE)*: pp. 25-36.
- Shen, H., Krishnan, R., Slavin, R., & Niu, J. (2016). "Sequence Diagrams Aided Privacy Policy Specification". *IEEE Transactions on Dependable and Secure Computing (TDSC)* 13(3): 381-393.

- Shahan, J., Niu, J., and Tripunitara, M. (2015). "Mohawk+T: Efficient Analysis of Administrative Temporal Role-Based Access Control (ATRBAC) Policies", *20th ACM symposium on Access Control Models and Technologies*: pp. 15--26. **Best Paper Award Runner-Up.**
- Niu, J., Reith, M., Winsborough W.H. (2014). "Formal Verification of Security Properties in Trust Management Policy". *Journal of Computer Security (JCS)* 22(1): 69-153.
- Chowdhury, O., Gampe, A., Niu, J, von Ronne, J., Bennatt, J. Datta, A., Jia, L., & Winsborough, W.H. (2013) "Privacy Promises That Can Be Kept: A Static Policy Analysis Method with Application to the HIPAA Privacy Rules". *18th ACM symposium on Access Control Models and Technologies (SACMAT)*: pp. 3-14.
- Chowdhury, O., Pontual, M., Winsborough, W. H., Yu, T., Irwin, K., & Niu, J. (2012). "Ensuring Authorization Privileges for Cascading User Obligations". *17th ACM Symposium on Access Control Models and Technologies (SACMAT)*: pp. 33-44. **Best Paper Award.**
- Baldor, K., & Niu, J. (2012). "Monitoring Dense-Time, Continuous-Semantics, Metric Temporal Logic". *3rd International Conference on Runtime Verification (RV), Lecture Notes in Computer Science*, vol. 7687: pp. 245-259.
- Krishnan, R. N., Niu, J., Sandhu, R., & Winsborough, W. H. (2011). "Group-Centric Secure Information Sharing Models for Isolated Groups". *ACM Transactions on Information and System Security (TISSEC)* 14(3): 23:1-23:29.

#### (d) SIGNIFICANT RESEARCH GRANTS AND AWARDS

- Principal Investigator, MSRDC (DoD), "Developing a Pattern-Based Measurement Model for Improving Software Reliability", June 2018 - June 2019, \$45,250. Co-PI, Xiaoyin Wang.
- Co-Principal Investigator, National Science Foundation (NSF) Grant CNS-1748109, "EAGER: Tracing Privacy-Policy Statements into Code for Privacy-Aware Mobile App Development", August 2017 - July 2019, \$144,288. PI, Xiaoyin Wang.
- Principal Investigator, MSRDC (DoD), "PAM: A Pattern-Based Measurement Model for Improving Software Reliability", April 2017- January 2018, \$46,750, Co-PI, Xiaoyin Wang.
- Principal Investigator for UTSA, National Security Agency (NSA through CMU), "Science of Security: Usable Formal Methods for the Design and Composition of Security and Privacy Policies", February 2014 - July 2017, \$220,000.
- Principal Investigator, National Science Foundation (NSF) Grant CNS-0964710, "TC: Medium: Privacy and Declassification Policy Enforcement Framework", September 2011- June 2016, \$1,162,668, Co-PI, Jeffery von Ronne. July 2010- August 2011, PI, William H. Winsborough, Co-PIs, Jianwei Niu and Jeffery von Ronne.
- Principal Investigator for UTSA, National Security Agency (NSA through CMU), "Improving the Usability of Security Requirements by Software Developers through Empirical Studies and Analysis", January 2012 - September 2014, \$200,000.
- Principal Investigator, Texas Higher Education Coordinating Board (THECB), Norman Hackerman Advanced Research Program (NHARP) grant 010115-0037-2007, "Formal Methods in Access Control Policy Analysis and Design", May 2008 - January 2011, \$145,999. Co-PI, William H. Winsborough.

#### (e) SYNERGISTIC ACTIVITIES

- Program Committee Chair, ACM Symposium on Access Control Models and Technologies (SACMAT) 2019;  
Proceedings Chair, ACM/IEEE International Conference on Software Engineering (ICSE) 2019;  
Posters Chair, SACMAT 2018;

Demonstration Chair, SACMAT 2017;  
Panels Chair, SACMAT 2016;  
Local Arrangements Chair, ICSE 2016;  
Proceedings Chair, SACMAT 2015

- Panelist, National Science Foundation, 2018, 2017, 2015, 2014, and 2012
- Program Committee Member, ACM Symposium on Access Control Models and Technologies (SACMAT), 2015 and 2014; ACM Symposium on Information, Computer and Communications Security (ASIACCS), 2015; International Conference on Software Engineering and Applications (ICSOFT-EA), 2017, 2016, 2015, 2014 and 2013; International Conference on Software and Data Technologies (ICSOFT), 2012, 2011, 2010, and 2009; IEEE/ACIS International Conference on Computer and Information Science (ICIS), 2013, 2012, 2011, 2010, 2009, and 2008; IEEE International Conference on Software Maintenance, Tool Demo Track, 2009
- Reviewers: Journal of ACM (JACM), Journal of Computer Security (JCS), IEEE Transactions on Dependable and Secure Computing (TDSC), IEEE Transactions on Software Engineering (TSE), IEEE Computer, Journal of Software and System Modeling
- Recipient of President's Distinguished Achievement Award for Teaching Excellence, 2009, University of Texas at San Antonio (UTSA)

**(f) PH.D. ADVISORS**

I have been the thesis advisor for Xueling Zhang at UTSA 2018 - present  
I have been the thesis advisor for Dylan Soderman at UTSA 2018 - present  
I have been the thesis advisor for John Heaps at UTSA 2017 - present  
I have been the thesis advisor for Mitra Bokaei Hosseini at UTSA 2015 - present  
I have been the thesis advisor for Kevin Baldor at UTSA 2013 - present

I was the thesis advisor for Rocky Slavin at UTSA 2012 - 2017  
I was the thesis advisor for Omar Chowdhury at UTSA 2011 - 2013  
I was the thesis advisor for Mark Robinson at UTSA 2009 - 2013  
I was the thesis advisor for Hui Shen at UTSA 2007 - 2013  
I was the thesis advisor for Murillo Pontual at UTSA 2011 - 2011  
I was the thesis advisor for Mark Reith at UTSA 2005 - 2009