

Alexandru G. Bardas

Curriculum Vitae

(last update: January 2024)

EECS Department | I2S
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The University of Kansas,
Lawrence, KS 66045

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Education

Kansas State University, Manhattan, KS 2010 – 2016

PhD in Computer Science

– Co-Major Professors: Xinming Ou, Scott A. DeLoach

– Area of Study: Cybersecurity (Systems and Network Security)

– GPA: 4.0

– Dissertation Title: *Evaluating and Quantifying the Feasibility and Effectiveness of Whole IT System Moving Target Defenses*

James Madison University, Harrisonburg, VA

M.S. - Computer Science (Secure Software Systems) 2008 – 2010

Undergraduate Exchange Student 2007 – 2008

Romanian-American University, Bucharest, Romania 2005 – 2008

Diploma - Computer Science for Business Management

Diploma - Domestic and International Business, Banking, and Finance
(“Bachelor’s Degree Thesis” Presentation July 2009)

Appointments

- **University of Kansas**, Lawrence, KS
 - *Associate Professor*, August 2023 – present
 - *Assistant Professor*, July 2017 – August 2023
- **Kansas State University**, Manhattan, KS
 - *Visiting Assistant Professor*, June 2016 – June 2017
Coordinated (co-PI role) the research activities in various projects such as “Moving Target Defenses”, “Analyzing Security-Relevant Network Data”; and was involved in “Bringing Anthropology Into Cybersecurity”. Taught the following courses: “Computer and Information Security” (three credit-hours) and “Cyber Defense Basics” (one credit-hour).
 - *Graduate Research Assistant and Instructor*, May 2011 – May 2016
Worked on different research projects that resulted in various peer-reviewed publications. One of the projects required working daily in an operational security environment (01/2013 - 05/2013). Designed and taught the “Cyber Defense Basics” class together with Xinming Ou.
 - *Graduate Teaching Assistant*, August 2010 – May 2011
Taught the practical laboratory for an introductory programming class.

- **Hewlett Packard Labs**, Princeton, NJ
Research Associate Intern, May 2014 – August 2014
Mentors: Pratyusa Manadhata, William Horne
Worked on and enhanced an existing prototype for processing large amounts of Domain Name System (DNS) traffic in real-time. The project was transferred to the product team and was eventually turned into a commercial solution.
- **Arbor Networks**, Ann Arbor, MI
ASERT Engineer Intern, May 2013 – August 2013
Mentor: Marc R. Eisenbarth
Worked on developing techniques for mitigating DNS amplification abuses (resulted in a patent) and on clustering malware using fuzzy hashing (resulted in a poster at USENIX Security 2013).
- **James Madison University**, Harrisonburg, VA
Graduate Teaching Assistant, August 2008 – May 2010
Mentor: Ramon Mata-Toledo
Responsible for grading assignments and exams, holding office hours, and for organizing exam preparation sessions for various courses in computer science and mathematics.

Sponsored Awards (Grants)

1. Supplement to CAREER: SaTC: Bridging the Gap Between Research and Practice: Automation and Metrics in Security Operation Centers. **PI: A. G. Bardas**. National Science Foundation (NSF). \$104,782; October 2023 - estimated May 2027.
2. CAREER: SaTC: Bridging the Gap Between Research and Practice: Automation and Metrics in Security Operation Centers. **PI: A. G. Bardas**. National Science Foundation (NSF). \$524,322; June 2022 - estimated May 2027.
3. EAGER: SaTC: Early-Stage Interdisciplinary Collaboration: Collaborative: A Sociotechnical Metrics Framework for Network and Security Operations Centers. **PIs: A. G. Bardas (lead)**, B. Fidler. National Science Foundation (NSF). \$300,000; June 2019 - May 2022.
4. CRII: SaTC: Creating and Managing Structurally-Morphing IT Systems - Moving Targets. **PI: A. G. Bardas**. National Science Foundation (NSF). \$174,898; June 2019 - estimated May 2023.
5. GenCyber Grant Program (Teacher Summer Camp 2022 at the University of Kansas). **PI: A. G. Bardas** co-PIs: F. Li (lead instructor), B. Luo, C. Seasholtz, D. Davidson. National Security Agency (NSA). \$136,244.
6. GenCyber Grant Program (Teacher Summer Camp 2023 at the University of Kansas). **PI: D. Davidson** **co-PIs: A. G. Bardas** (lead instructor), F. Li, B. Luo, C. Seasholtz. National Security Agency (NSA). \$145,794.
7. GenCyber Grant Program (Teacher Summer Camp 2020/2021 at the University of Kansas). **PI: B. Luo** **co-PIs: A. G. Bardas**, F. Li, C. Seasholtz, D. Davidson. National Security Agency (NSA). \$99,871.
8. GenCyber Grant Program (Teacher Summer Camp 2019 at the University of Kansas). **PI: B. Luo** **co-PI: A. G. Bardas**, F. Li, C. Seasholtz, D. Davidson. National Security Agency (NSA). \$99,871.
9. GenCyber Grant Program (Teacher Summer Camp 2018 at the University of Kansas). **PI: B. Luo** **co-PIs: A. G. Bardas**, F. Li, C. Seasholtz. National Security Agency (NSA). \$99,840.
10. Understanding and Quantifying the Impact of Moving Target Defenses on Computer Networks. **PI: S. A. DeLoach** and **co-PIs: A. G. Bardas** (starting summer 2016), X. Ou. Air Force Office of Scientific Research (AFOSR). \$1,000,311; April 2012 - September 2017.

Publications

1. Kailani R. Jones, Dalton A. Brucker-Hahn, Bradley Fidler, Alexandru G. Bardas. “Work-From-Home and COVID-19: Trajectories of Endpoint Security Management in a Security Operations Center”. In *USENIX Security 2023*, Anaheim CA, USA, August 2023.
2. Alaa Daffalla and Alexandru G. Bardas. Book chapter: Political Activism and Technology. In *AI Embedded Assurance for Cyber Systems*. Editors: C. Wang, S. Iyengar, K. Sun. Springer, 2023.
3. Alaa Daffalla, Lucy Simko, Tadayoshi Kohno, Alexandru G. Bardas. “Defensive Technology Use During the 2018-2019 Sudanese Revolution”. In *IEEE Security and Privacy Magazine (Special Issue)*, March-April 2022.
4. Amin Shojaeighadikolaei, Arman Ghasemi, Alexandru G. Bardas, Reza Ahmadi, Morteza Hashemi. “Weather-Aware Data-Driven Microgrid Energy Management Using Deep Reinforcement Learning”. In *53rd North American Power Symposium (NAPS)*, College Station, TX, USA, November 2021.
5. Alaa Daffalla, Lucy Simko, Tadayoshi Kohno, Alexandru G. Bardas. “Defensive Technology Use by Political Activists During the Sudanese Revolution”. In *IEEE Symposium on Security and Privacy (S&P) – Oakland*, Virtual Event, May, 2021.
6. Kailani R. Jones, Ting-Fang Yen, Sathya Chandran Sundaramurthy, Alexandru G. Bardas. “Deploying Android Security Updates: An Extensive Study Involving Manufacturers, Carriers, and End Users”. In *ACM SIGSAC Conference on Computer and Communications Security (CCS)*, Virtual Event, November, 2020.
7. Arman Ghasemi, Amin Shojaeighadikolaei, Kailani R. Jones, Morteza Hashemi, Alexandru G. Bardas, Reza Ahmadi. “A Multi-Agent Deep Reinforcement Learning Approach for a Distributed Energy Marketplace in Smart Grids”. In *IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm)*, Virtual Event, November, 2020.
8. Amin Shojaeighadikolaei, Arman Ghasemi, Kailani R. Jones, Alexandru G. Bardas, Morteza Hashemi, Reza Ahmadi. “Demand Responsive Dynamic Pricing Framework for Prosumer Dominated Microgrids using Multiagent Reinforcement Learning”. In *52nd North American Power Symposium (NAPS)*, Virtual Event, October, 2020 (moved to April 2021).
9. Dalton A. Hahn, Drew Davidson, and Alexandru G. Bardas. “Security Issues and Challenges in Service Meshes – An Extended Study”. In *arXiv version*, October, 2020.
10. Dalton A. Hahn, Drew Davidson, and Alexandru G. Bardas. “MisMesh: Security Issues and Challenges in Service Meshes” (Short Paper). In *EAI Security and Privacy in Communication Networks (SecureComm)*, Virtual Event, October, 2020.
11. Yousif Dafalla, Bo Liu, Dalton A. Hahn, Hongyu Wu, Reza Ahmadi, and Alexandru G. Bardas. “Prosumer Nanogrids: A Cybersecurity Assessment”. In *IEEE Access*, Volume 8, July, 2020.
12. Ron Andrews, Dalton A. Hahn, Alexandru G. Bardas. “Measuring the Prevalence of the Password Authentication Vulnerability in SSH”. In *IEEE International Conference on Communications (ICC) – Communications and Information System Security (CISS) Symposium*, Virtual Event, June, 2020.
13. Chandan Chowdhury, Dalton A. Hahn, Matthew R. French, Eugene Y. Vassermann, Pratyusa K. Manadhata, Alexandru G. Bardas. “eyeDNS: Monitoring a University Campus Network”. In *IEEE International Conference on Communications (ICC) – Communications and Information System Security (CISS) Symposium*, Kansas City, MO, USA, May, 2018.
14. Alexandru G. Bardas, Sathya C. Sundaramurthy, Xinming Ou, Scott A. DeLoach. “MTD CBITS: Moving Target Defense for Cloud-Based IT Systems”. In *22nd European Symposium on Research in Computer Security (ESORICS)*, Oslo, Norway, September, 2017.

15. Sathya C. Sundaramurthy, Michael Wesch, Xinming Ou, John McHugh, Siva Raj Rajagopalan, Alexandru G. Bardas. “Humans are dynamic. Our tools should be too. Innovations from the Anthropological Study of Security Operations Centers”. In *IEEE Internet Computing*, May/June, 2017.
16. Sathya Chandran Sundaramurthy, John McHugh, Xinming Ou, Michael Wesch, Alexandru G. Bardas, Siva Raj Rajagopalan. Turning contradictions into innovations or: how we learned to stop whining and improve security operations. In *12th on Symposium on Usable Privacy and Security (SOUPS 2016)*, Denver, CO, USA, June, 2016.
17. Sathya Chandran Sundaramurthy, Alexandru G. Bardas, Jacob Case, Xinming Ou, Michael Wesch, John McHugh, Siva Raj Rajagopalan. A human capital model for mitigating security analyst burnout. In *2015 Symposium on Usable Privacy and Security (SOUPS 2015)*, Ottawa, Canada, July, 2015. **(Distinguished Paper Award)**
18. Rui Zhuang, Alexandru G. Bardas, Scott A. DeLoach, Xinming Ou. A theory of cyber attacks – a step towards analyzing MTD systems. In *2nd ACM Workshop on Moving Target Defense (MTD)*, Denver, CO, USA, October, 2015.
19. Yuping Li, Sathya Chandran Sundaramurthy, Alexandru G. Bardas, Xinming Ou, Doina Caragea, Xin Hu, Jiyong Jang. Experimental study of fuzzy hashing in malware clustering analysis. In *8th USENIX Workshop on Cyber Security Experimentation and Test (CSET)*, Washington D.C., USA, August, 2015.
20. Ian Unruh, Alexandru G. Bardas, Rui Zhuang, Xinming Ou, Scott A. DeLoach. Compiling abstract specifications into concrete systems – bringing order to the cloud. In *28th USENIX Large Installation System Administration Conference (LISA)*, Seattle, WA, USA, November, 2014.
21. Rui Zhuang, Su Zhang, Alexandru G. Bardas, Scott A. DeLoach, Xinming Ou, Anoop Singhal. Investigating the application of moving target defenses to network security. In *6th International Symposium on Resilient Control Systems (ISRCs)*, San Francisco, CA, USA, August, 2013.
22. Alexandru G. Bardas and Xinming Ou. Setting up and using a cyber security lab for education purposes. In *Journal of Computing Sciences in Colleges*, Vol. 28, Issue 5, May, 2013.
23. Alexandru G. Bardas, Loai Zomlot, Sathya Chandran Sundaramurthy, Xinming Ou, S. Raj Rajagopalan, Marc R. Eisenbarth. Classification of UDP traffic for DDoS detection. In *5th USENIX Workshop on Large-Scale Exploits and Emergent Threats (LEET)*, San Jose, CA, USA, April, 2012.

Research Projects in Progress / Works Under Review

- Developing automation and metrics for network and security operations centers
- Election technologies use in practice
- Secure and user-focused communication technologies in challenging environments
- Embedding security in DevOps tools
- Structurally-morphing IT systems – Moving targets in enterprise and resource-constraint setups
- Prevalence of known vulnerabilities and shortcomings in large-scale operational environments
- Cybersecurity assessments in prosumer environments (picogrids, microgrids, etc.)

Refereed Posters

1. Alexandru G. Bardas. Creating and Managing Structurally-Morphing IT Systems – Moving Targets. The 2022 NSF Secure and Trustworthy CyberSpace Principal Investigators’ Meeting. June 2022. Poster paper. (Invited)
2. Alexandru G. Bardas and Bradley Fidler. A Sociotechnical Metrics Framework for Network and Security Operation Centers. The 2022 NSF Secure and Trustworthy CyberSpace Principal Investigators’ Meeting. June 2022. Poster paper. (Invited)
3. Alexandru G. Bardas. Creating and Managing Structurally-Morphing IT Systems – Moving Targets. The 2019 NSF Secure and Trustworthy CyberSpace Principal Investigators’ Meeting. October 2019. Poster paper. (Invited)
4. Alexandru G. Bardas and Bradley Fidler. A Sociotechnical Metrics Framework for Network and Security Operation Centers. The 2019 NSF Secure and Trustworthy CyberSpace Principal Investigators’ Meeting. October 2019. Poster paper. (Invited)
5. Dalton A. Hahn and Alexandru G. Bardas. Introducing Moving Target Defense Methods to Secure the World of IoT Devices in Cyber-Physical Systems. In the University of Kansas NSA Science of Security Lablet Workshop on Securing the Internet of Things. Kansas City, KS, USA, October 2018.
6. Alexandru G. Bardas, Ian Unruh, Rui Zhuang, Xinming Ou, Scott A. DeLoach. Compiling abstract specifications into concrete systems – bringing order to the cloud. In *USENIX Annual Technical Conference (ATC)*, Philadelphia, PA, USA, June, 2014.
7. Jason Jones, Marc R. Eisenbarth, Michael Barr, Alexandru G. Bardas. A survey of fuzzy hashing algorithms for malware clustering. In *USENIX Security*, Washington D.C., USA, August, 2013.
8. Alexandru G. Bardas, Loai Zomlot, Sathya Chandran Sundaramurthy, Xinming Ou, Siva Raj Rajagopalan, Marc R. Eisenbarth. Classification of UDP traffic for DDoS detection. In *USENIX Security*, Seattle, WA, USA, August, 2012.

Patents

- [*Protecting Computing Assets from Resource Intensive Querying Attacks*](#). US Patent 20150312272 A1. Roland E. Dobbins, Alexandru G. Bardas, and Marc R. Eisenbarth. October 29, 2015.

Awards

- EECS Excellence in Undergraduate Teaching Professorship, University of Kansas, 2023.
- Honorable Mention in the [*10th Annual Science of Security Cybersecurity Paper Competition*](#) organized by the National Security Agency (NSA), announced in January 2023.
- Miller Faculty Scholar Award, School of Engineering, University of Kansas, 2022.
- National Science Foundation (NSF) CAREER Award, 2022.
- Bellows Scholar, School of Engineering, University of Kansas, 2019.
- University of Kansas New Faculty General Research Fund (NFGRF) Award, July 2018.
- Distinguished Paper Award in USENIX SOUPS 2015.
- Member of The Honor Society of Phi Kappa Phi (ΦΚΦ), 2011.
- PhD Fellowship, Department of Computing and Information Sciences Kansas State University, 2010.
- Undergraduate Exchange Program Scholarship to study at James Madison University (2007 - 2008).
- Romanian National Olympiad in Logic, Argumentation and Communication, awarded finalist, 2005.

Invited Talks

- Discussion with Inside Higher Ed. [The Louisiana Cyberattacks That Weren't – or Maybe Were?](#), March 2023.
- Podcast interview for Cybersecurity Guide. [An interview with Alex Bardas](#), February 2023.
- Panelist at “[Cybersecurity Threats from Russia, Eastern Europe, and Eurasia and the Global Spread of Disinformation](#)”. University of Kansas, Lawrence KS, April 2022.
- Panelist at “[How to Survive a Plague: Burnout in the SOC](#)”. Virtual Conference, December 2020.
- Invited Speaker at DataVisor, Cybersecurity Everywhere, Santa Clara CA, August 2019.
- Invited Speaker at the University of South Florida, Cybersecurity at the Crossroads of Science, Engineering, and Human Behavior, Tampa FL, May 2019.
- Presenter and panelist at “The Organizational Science & Cybersecurity Workshop” (sponsored by the National Science Foundation), George Mason University, Fairfax VA, July 2018.
- Panelist at CCSC Central Plains Regional Conference “Growing a Cybersecurity Program: Comparing and Contrasting Multiple Attempts”, Northwest Missouri State Univ., Maryville MO, April 2018.
- Panelist at the Global Headline Series event “Has Our Democracy Been Hacked? Russian Interference, Cybersecurity, Micro-Targeting & the 2016 Election”, Center for Global and International Studies at the University of Kansas, Lawrence KS, November 2017.
- Cybersecurity at the Intersection of Science, Engineering, and Human Behavior. Central Area Networking and Security Workshop (CANSec 2017), Rolla MO, October 2017.
- Invited Speaker at James Madison University, Cybersecurity at the Intersection of Science, Engineering, and Human Behavior, Harrisonburg VA, November 2016.
- Moving Target Defenses Quantification Workshop at George Mason University, A Security Metric Tailored for an MTD Platform, Fairfax VA, June 2016.
- Kansas Linux Fest, ANCOR – next gen. framework for cloud automation, Lawrence KS, March 2015.
- Hewlett Packard Labs - Princeton NJ, Compiling Abstract Specifications into Concrete Systems – Bringing Order to the Cloud through ANCOR, July 2014.

Courses Taught (Instructor)

- EECS 465: Cyber Defense (Spring 2024)
Course website: www.alexbardas.com/eecs465/
- EECS 765: Introduction to Cryptography and Computer Security (Fall 2023)
Course website: www.alexbardas.com/eecs765/
- EECS 448: Software Engineering I (Spring 2018)
Course website: www.alexbardas.com/eecs448/
- EECS 690/465: Cyber Defense (Spring 2019 - 2023; Fall 2019 - 2023)
- EECS 765: Introduction to Cryptography and Computer Security (Fall 2017 - 2022)
- CIS 751/551: Computer and Information Security (Fall 2016)
- CIS 490/798: Cyber Defense Basics (Fall 2015, 2016; Spring 2016, 2017)
- CIS 490K: Cyber Defense Basics (South Korean Summer Institute - Summer 2015)
- CIS 490/798: Cyber Defense Basics
(co-taught with Xinming Ou, Fall 2011 - 2014; Spring 2012 - 2015)

Courses as a Graduate Teaching Assistant

- Kansas State University
 - Spring 2011: CIS200 - Fundamentals of Software Design
 - Fall 2010: CIS200 - Fundamentals of Software Design
- James Madison University
 - Spring 2010: CS 228 - Discrete Structures II
 - Spring 2010: CS 227 - Discrete Structures I
 - Fall 2009: MATH 155- College Algebra
 - Fall 2009: CS 227 - Discrete Structures I
 - Spring 2009: MATH 205 - Introductory Calculus I
 - Spring 2009: CS 228 - Discrete Structures II
 - Fall 2008: MATH 205 - Introductory Calculus I
 - Fall 2008: CS 228 - Discrete Structures II

Professional Services

- Review panels
 - National Science Foundation (NSF) Panelist 2023, 2022, 2021
 - Participated in federal grants reviews as an independent expert (e.g. DOE, NSF, etc.) 2021, 2020
- Committees (International and National)
 - Co-chair for Lightning Talks and Demos at Symposium On Usable Security and Privacy (SOUPS 2024)
 - Program committee member of Symposium On Usable Security and Privacy (SOUPS 2024)
 - General Chair for the Central Area Networking and Security Workshop (CANSec 2023)
 - Program committee member of Symposium On Usable Security and Privacy (SOUPS 2023)
 - Technical program committee member of Military Comm. Conf.(MILCOM 2023, 2022, 2021)
 - Local Co-Chair for EAI International Conference on Security and Privacy in Communication Networks (SecureComm 2022)
 - Session Chair at EAI International Conference on Security and Privacy in Communication Networks (SecureComm 2022)
 - Program committee member of Symposium On Usable Security and Privacy (SOUPS 2022)
 - Organizing committee member (“Posters and PhD Track” co-chair) of EAI International Conference on Applied Cryptography in Computer and Communications (AC3 2022)
 - Program committee member of ACM Conference on Computer and Communications Security (CCS 2021)
 - Organizing committee member (“Panel” co-chair) of IEEE Conference on Communications and Network Security (CNS 2021)
 - Treasurer of ACM Conference on Computer and Communications Security (CCS 2020)
 - Program committee member of IEEE International Performance Computing and Communications Conference (IPCCC 2022, 2021, 2020)
 - Session chair at Kansas Power and Energy Conference (KPEC 2020)
 - Program committee member of NSA Hot Topics in the Science of Sec. (HotSoS 2020, 2019)

- Program committee member of ACM Workshop on Moving Target Defense co-located with ACM CCS (MTD 2023, 2022, 2020, 2019, 2018)
- Chair for the Student Poster Session part of the University of Kansas Science of Security Lablet Workshop on Securing the Internet of Things (KU SoS 2018)
- Co-chair for the CANSec 2017 Cyber Defense Competition
- Member on the “Advisory Board” of the CS Dept. at Kansas State University (2017 - present)
- Member on the “Business & Technology Advisory Board” for the Lawrence Public Schools (2022 - present)
- Member on the “Heartland Cyber Range Regional Advisory Board” for EKC (2023 - present)

At the University of Kansas:

- Member of the “Academic Standards Committee” (2022 – present)
 - Member of the EECS “Faculty Awards” committee (2021 - present)
 - Co-advisor for the KU Information Security Club (student club) – Lawrence (2017 – present)
 - Member of the EECS “Cybersecurity Search Committee” (2022 - 2023)
 - Member of the CREES “Cyber-Social Fellow” search committee (2022 - 2023)
 - Member of the EECS “B.S. in Cybersecurity” committee (2022 - 2023)
 - Member of the EECS “Ph.D. Qualifying Exam” committee (2019 - 2022)
 - Member of the EECS “Faculty Rights, Privileges & Responsibilities” committee (2017 - 2019)
 - Member of the EECS “Student Awards” committee (2017 - 2019)
 - Member of the School of Engineering “Computer Committee” (2019 - 2021)
 - Member of the University of Kansas Center “5 Year Center Review” committee (2021)
 - Reviewer/judge for the Undergraduate Research Award (UGRA) 2020
 - Reviewer/judge for Hack KU 2019
- External reviewer for journals and conferences
 - IEEE Transactions on Information Forensics and Security (TIFS 2020, 2019)
 - Journal of Cybersecurity - Springer (2020, 2019, 2018)
 - International Journal of Information Security (IJIS 2022, 2021)
 - MDPI Sensors - Open Access Journal (Sensors 2020, 2019)
 - IEEE Transactions on Services Computing (TSC 2019, 2018)
 - ACM Workshop on Moving Target Defense (MTD 2017, 2016, 2015, 2014)
 - Journal of Computer Science and Technology - Springer (2018)
 - ACM Workshop on Cyber-Physical Systems Security & Privacy (CPS-SPC 2017)
 - IEEE Transactions on Internet Technology (2017)
 - IEEE Transactions on Dependable and Secure Computing (2017)
 - European Symposium on Research in Computer Security (ESORICS 2016)
 - ACM Conference on Computer and Communications Security (CCS 2015)
 - ACM Symposium on Information, Computer and Communications Security (ASIACCS 2015, 2014)
 - Conference on Network and System Security (NSS 2015)

- Cyber Defense Club at Kansas State University (as a graduate student)
 - Founded the club and coordinated club activities (2011 – 2014)
 - Built and managed the Cyber Defense Laboratory (approx. \$500,000 worth of equipment)
- Graduate Student Advisory Council (GSAC) at Kansas State University, Fall 2014 – Spring 2016
 - E-Seminars Committee, Fall 2015

Competitive Events, Trainings, and Certifications

- Cyber Defense Competitions (coached and/or participated):
 - CANSec Cyber Defense Competition: 2018 (1st place)
 - National Cyber Defense Competition (NCDC) organized and hosted by Iowa State University: 2015 (3rd place), 2014 (2nd place)
 - Rocky Mountain Collegiate Cyber Defense Competition (RMCCDC) at Regis University: 2013 (2nd place), 2012 (5th place)
- Inquiry-based Cyber Defense Competition (CDC) Workshop, Iowa State University, March 2014
- Black Hat USA 2012 – Hacking by Numbers: BlackOps
- Certification for Information Systems Security Professionals (NSTISSI No. 4011), May 2010

Professional Affiliations

- Member of the Association for Computing Machinery (ACM)
- Member of the Institute of Electrical and Electronics Engineers (IEEE) and IEEE Computer Society
- Member of The Advanced Computing Systems Association (USENIX)
- Member of The Honor Society of Phi Kappa Phi ($\Phi\Kappa\Phi$)
- Member of the University of Kansas Institute for Information Sciences (I2S), former ITTC
- Member of the University of Kansas Center for Russian, East European & Eurasian Studies (CREES)

Language Certifications

- German Language Certification (Deutsches Sprachdiplom – Zweite Stufe), 2005
- Cambridge English: Advanced (CAE), 2004