Matthew Butler

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Education

May 2019 **Ph.D. in Computer Science**, *University of Tulsa*, GPA: 3.8.
Thesis: An Intrusion Detection System for Heavy-Duty Vehicle Networks

May 2011 **M.S. in Computer Science**, *University of Tulsa*, GPA: 3.7.
Thesis: Dynamic Risk Assessment Access Control

May 2008 **B.S. in Computer Science**, *University of Tulsa*, GPA: 3.5.
Minors: Mathematics, German

Classwork

- CNSS 4011: Information Security Personnel
- CNSS 4012: Senior System Manager
- CNSS 4013A: System Administrator
- CNSS 4014A: Information System Security Officer
- CNSS 4015: System Certifier
- CNSS 4016A: Risk Analyst

Consulting Experience

November 2015 - December 2015 **Source Code Reviewer**, *Antonelli, Harrington & Thompson LLP*.
Verifying that source code contained specific functionality relevant to a patent case

December 2014 - July 2015 **Risk Assessment Consultant**, *Oklahoma City-County Health Department*.
Analyzing the information assurance stance of the OCCHD network and creating a prioritized list of recommendations for better security based on findings and organizational mission and priorities

Academic Experience

Summer 2016 **Summer Camp Teacher**, *University of Tulsa*.

- Taught week-long, full-day summer camp sessions on cryptography, cryptanalysis and cybersecurity for middle school and high school students
- Reworked an existing curriculum for middle school students for high school students
- Integrated basic bash programming for hands-on exercises involving encryption, decryption, and cryptanalysis.

Spring 2017, 2014, 2013, 2012, 2011 **Teaching Assistant**, *University of Tulsa*.

- Taught course units on Defensive Programming for CS 7183: Information System Security Engineering
- Developed a code review project focused on identifying the information flow between a system and external actors and finding potential vulnerabilities.
- Developed a scoring rubric and partially automated grading system for the code review project

August 2008 - August 2012
Research Assistant, *University of Tulsa*.
- Researched security engineering, trusted operating systems, and network security
- Developed security engineering curriculum and short courses for local businesses
- Maintaining TU's Security Engineering Lab
- Teaching Java and Python to summer research participants
- Managing undergraduate participants in TU's summer research program

August 2009 - May 2010
Teaching Assistant, *University of Tulsa*.
- Taught lab sections for Application Programming and Algorithms (Fall 09) and Scientific Programming (Spring 10)
- Developed lab curriculum for Application Programming and Algorithms
- Graded homework and lab assignments

Peer-reviewed Publications

[1] Matthew Butler. An intrusion detection system for heavy-duty truck networks. In *Proceedings of the 12th International Conference on Cyber Warfare and Security*, pages 399–406, Dayton, OH, 2017.

[2] Matthew Butler, Peter Hawrylak, and John Hale. Graceful privilege reduction in rfid security. In *Proceedings of the Seventh Annual Workshop on Cyber Security and Information Intelligence Research*. ACM, 2011.

[3] Matthew Butler, Steven Reed, Peter J Hawrylak, and John Hale. Implementing graceful rfid privilege reduction. In *Proceedings of the Eighth Annual Cyber Security and Information Intelligence Research Workshop*. ACM, 2013.

[4] Peter J Hawrylak, Steven Reed, Matthew Butler, and John Hale. The access of things: Spatial access control for the internet of things. In *The Internet of Things: Breakthroughs in Research and Practice*, pages 507–526. IGI Global, 2017.

[5] George Louthan, Warren Roberts, Matthew Butler, and John Hale. The blunderdome: An offensive exercise for building network, systems, and web security awareness. In *Proceedings of the 3rd Workshop on Cyber Security Experimentation and Testing*, Washington, D.C., 2010. USENIX.

[6] Brandon Pollet, Matthew Butler, and John Hale. Dynamic policy enforcement in a network environment. In *Proceedings of the Security Enhanced Linux Symposium*, Baltimore, MA., 2006.