Sean M. Smith

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Professional Experience

Cybersecurity Research Intern, Assured Information Security Inc.
May 2023 – August 2023

- Conducted red team security analysis for MIT Lincoln Laboratory to validate their Hardware-Assisted Kernel Compartmentalization (HAKC) Technology, which used ARM Pointer Authentication (PAC) and Memory Tagging Extension (MTE) to mitigate kernel exploits. Created customer facing security evaluation report content and comprehensive internal documentation that boosted the team's productivity.
- Researched advanced Linux kernel security methodologies to develop custom kernel modules, emulate adversarial compromise scenarios, and establish ARMv8 test environments with QEMU for comprehensive performance assessments, providing valuable insights into system vulnerabilities and strengths.
- Gained familiarity with the maritime Automatic Identification System (AIS), GNU Radio, and the maritime cybersecurity space, while actively participating in a red team exercise targeting ROS (Robot Operating System) powered maritime devices. Also contributed to the security analysis by devising strategies to potentially compromise the device's physical security.

Software Engineering Intern, ANDRO Computation Solutions LLC
June 2020 – September 2020

- Worked on the development and implementation of wireless networking protocols for unmanned systems in C++. Additionally, evaluated the performance and complexity of potential solutions that helped to mitigate development risks associated with the project.
- Implemented Graphical User Interfaces using Python with PyQt to visualize wireless network data, enabling developers to receive real-time information about the network which facilitated rapid debugging and development.

Education

Bachelors in Computer & Information Systems, State University of New York Polytechnic Institute, 2023

Involvement

- Finalist in the New York State Business Competition, Built a thermostat that used a unique predictive control algorithm to achieve better comfort and energy efficiency in two wire heat systems. Created a complete business plan for the product including market research, product research and development, and financial analysis.
- Member of the SUNY Poly Network & Cybersecurity Club, Attended frequent training events and talks by guest speakers from local companies.
- Participant in the CNY Hackathon, Worked as part of a blue team to keep network services up that were under attack by a red team of cybersecurity professionals.
- Member of the IEEE Computer Society.