

Benjamin Andrew Cyr

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EDUCATION

2018 – Now **Ph.D. in Computer Science**
3rd Year
University of Michigan
Ann Arbor, MI

2018 – 2020 **MSE in Computer Science**
University of Michigan
Ann Arbor, MI
GPA: 4.00/4.00

2013 – 2017 **Bachelor's of Electrical Eng.**
Auburn University
Auburn, AL
GPA: 3.98/4.00

RESEARCH EXPERIENCE

JUNE 2018 – NOW
University of Michigan – Ann Arbor, MI
Cyber-Physical Security Research
Advisor: Dr. Kevin Fu. Researching defenses against light-based attacks on microphones in voice-controllable systems and spoofing attacks on LiDAR sensors used in autonomous vehicles.

JANUARY 2018 – MAY 2018
Auburn University – Auburn, AL
Hardware Security Research
Advisor: Dr. Ujjwal Guin. Proposed a new theoretical defense to prevent firmware extraction attacks in low-cost embedded systems.

AUGUST 2017 – MAY 2018
Auburn University – Auburn, AL
Networking Optimization Research
Advisor: Dr. Yin Sun. Constructed MATLAB simulations for optimizing the age of information in real-time networks.

MAY 2017 – JULY 2017
Hochschule Mannheim – Mannheim, Germany
Embedded Systems Research
Advisor: Prof. Dr. Walter Götzmann. Developing a system to measure and display data from an electronic bike using an AVR microcontroller.

INDUSTRY EXPERIENCE

MAY 2016 – AUGUST 2016
ADTRAN Inc. – Huntsville, AL
Network Driver Development
Software development of custom network driver on proprietary ADTRAN equipment.

AUGUST 2015 – DECEMBER 2015
ADTRAN Inc. – Huntsville, AL
Design Verification Testing
Wrote automated "smoke checks" in python to test functionality of new software releases on ADTRAN Management and Switch Modules.

JANUARY 2015 – MAY 2015
ADTRAN Inc. – Huntsville, AL
Sys. Design and Ver. Testing
Cooperative experience. Performed routine tests of ADTRAN and Cisco devices using CLI and proprietary GUIs.

MAY 2014 – AUGUST 2014
SAIC – Huntsville, AL
Private Network Administration
Maintained devices on a private network of helicopter simulators.

ENGINEERING EXPERIENCE

JANUARY 2014 – MAY 2018
Auburn University – Auburn, AL
AU Small Satellite Program
Member of Electrical Power System Team in student-managed CubeSat program. Managing and teaching a team of younger students to build and test embedded systems.

PUBLICATIONS

Light Commands: Laser-Based Audio Injection Attacks on Voice-Controllable Systems. T. Sugawara, B. Cyr, S. Rampazzi, D. Genkin, and K. Fu. Usenix 2020.

Adversarial Sensor Attack on LiDAR-based Perception in Autonomous Driving. Y. Cao, C. Xiao, B. Cyr, Y. Zhou, W. Park, S. Rampazzi, Q.A. Chen, K. Fu, Z.M. Mao. ACM CCS 2019.

Low-Cost and Secure Firmware Obfuscation Method for Protecting Electronic Systems from Cloning. B. Cyr, J. Mahmod, U. Guin. IEEE IoT Journal 2019.

Information Aging through Queues: A Mutual Information Perspective. Y. Sun, B. Cyr. IEEE SPAWC 2018.