Kyle Hogan

kylehogan.github.io
klhogan@mit.edu | 573.465.1976

EDUCATION

MIT
EECS PhD Student
1st Year

BOSTON UNIVERSITY
BA in Computer Science
Chemistry Minor
September 2016

TEACHING & MENTORING

MIT PRIMES
January 2016 - Present
Mentored two high school students on a project studying network bandwidth as a side channel in the cloud. Currently mentoring students studying privacy for Monero transactions.

CS558 NETWORK SECURITY
Fall 2015
Teaching Assistant
Covered SQL injection, CSRF, XSS, cracking WEP, ARP spoofing, and web security topics such as HSTS, certificates, and secure cookies. Taught discussion and lab sections, held regular office hours, and maintained a Piazza forum.

BU CODEBREAKERS
Summer 2016
Summer program introducing high school girls to programming and topics in computer security. Gave a guest lecture on DNS and BGP with a focus on DNSSec and BGPSec.

AWARDS

Boston University
- 2016 Excellence in Research Award
- 2015 Clare Boothe Luce Scholar

Missouri S&T
- 2012 Contribution to Research

ACTIVITIES

- practical security seminar
- cryptography, systems security, and MPC reading groups
- Charles River Crypto Day

RESEARCH

COMPUTATIONAL STRUCTURES GROUP | MIT
July 2017 – Present
First year PhD student advised by Professor Srini Devadas. Working on reducing leakage in secure enclave environments with a particular focus on leakage free demand paging.

MACS PROJECT | Boston University
September 2015 – May 2017
Worked to apply the Universal Composability framework to cloud computing components in order to construct a proof of security for cloud implementations. This work had been presented at the MOC workshop and at the project's NSF site visit.

MASSACHUSETTS OPEN CLOUD | Boston University
January 2016 – May 2017
Worked as a core developer on a bare metal cloud building a hardware isolation layer and as a member of a group designing trustworthy bare metal clouds. This work was presented at the New England Security Day and the MOC workshop.

SECURE RESILIENT SYSTEMS & TECHNOLOGY | MIT LL
June 2016 – September 2016
Worked as an intern applying MPC to cybersecurity problems. Implemented protocols in VIFF to allow parties to securely compute a joint IP blacklist or aggregate outputs of vulnerability scanners. This work was presented at IEEE SecDev 2016.

SESA LAB | Boston University
February 2015 – August 2015
Worked on modifying a fetal MRI reconstruction algorithm to run in a distributed manner on the cloud. This work was presented as a poster at BU UROP and the New England Networking and Systems Day.

NMR GROUP | Missouri University of Science & Technology
May 2014 – July 2014

NEUROMORPHICS LABORATORY | Boston University
May 2013 – August 2013
Worked in MATLAB on a project studying role of hippocampus and basal ganglia in motion decisions. Helped debug and add additional functionality to existing code. Presented poster at BU UROP.

MA BIOCHEM LAB | Missouri University of Science & Technology
March 2012 – June 2012

PRESENTATIONS & PUBLICATIONS

Ran Canetti, Kyle Hogan, Aanchal Malhotra, and Mayank Varia. "A Universally Composable Treatment of Network Time." *IEEE Computer Security Foundations Symposium*. 2017.

Yatharth Agarwal, Vishnu Murale, Jason Hennessey, Kyle Hogan, and Mayank Varia. "Moving in Next Door: Network Flooding as a Side Channel in Cloud Environments." *International Conference on Cryptology and Network Security*. Springer International Publishing, 2016.

Kyle Hogan, Noah Luther, Nabil Schear, Emily Shen, David Stott, Sophia Yakoubov, and Arkady Yerukhimovich "Secure Multiparty Computation for Cooperative Cyber Risk Assessment" *IEEE SevDev*, 2016.