Kyle Hogan

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EDUCATION

MIT
EECS PhD Student

BOSTON UNIVERSITY
BA in Computer Science
Chemistry Minor
September 2016

SECURITY SEMINAR

(2019-Present) Organizer of the CSAIL security seminar which is a series of invited talks showcasing research from industry and academic researchers.

MENTORSHIP

2016- : MIT PRIMES Mentor
Mentor high school students on graduate-level research projects. Students learn to conduct research independently and present their work.

2020-22 : MIT GAAP & Project SHORT
Advise underrepresented students during the graduate school application process. Both programs focus on 1:1 mentorship with individual applicants.

TEACHING

2021-2023: MIT 6.857/6.5610
Served as a lab assistant and teaching assistant in a graduate network security and applied cryptography course. Advised students on their class projects and taught intro to research discussion sections.

Fall 2015: Boston University CS558
Served as a teaching assistant in a graduate network and web security course. Taught discussion and lab sections, held regular office hours, and maintained a Piazza forum.

AWARDS

NSF (GRFP)
2018 Graduate Research Fellowship
Boston University
2016 Excellence in Research Award
2015 Clare Boothe Luce Scholar

ABOUT ME

My research interests lie privacy and anonymity for users of real-world systems. In particular, I focus on providing meaningful privacy guarantees while preserving practical performance/functionality requirements. My latest projects have been in the areas of improved routing on the Tor network and privacy preserving targeted advertising. I also serve(d) as a research advisor to several students in the areas of anonymous communication, anonymous proof-of-stake, leakage analysis, and remote attestation. In general I enjoy the design and analysis of privacy-focused protocols that take into account failure modes when used in practice while respecting constraints around correct functionality and regulatory compliance. Lately, I've been engaged in policy focused projects that consider the interplay between privacy best practices and current regulations. For full list of publications, please see my Google Scholar.

RESEARCH

COMPUTATIONAL STRUCTURES GROUP | MIT
PhD Student | July 2017 – Present
PhD student advised by Professor Srini Devadas. Research is focused on privacy and anonymity on the internet and side-channel leakage.

SECURITY GROUP | Akamai
Intern | June 2018 – August 2018
Summer intern designing a key management scheme to be used for disaster recovery of encrypted data backups. Proposed protocol was designed to account for failures around the human-in-the-loop nature of the process (such as lost keys or absence of key-holders) as well as distributed hardware/software failures.

MACS PROJECT | Boston University
Research Assistant | September 2015 – May 2017
Worked to apply the Universal Composability framework to construct a proof of security for OpenStack and the Network Time Protocol.

MASSACHUSETTS OPEN CLOUD | Boston University
Research Assistant | January 2016 – May 2017
Core developer on a project designing trustworthy bare metal clouds. Focused on the area of secure boot including use of a TPM for attestation during the boot process.

SECURE RESILIENT SYSTEMS & TECHNOLOGY | MIT LL
Intern | 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.

SESA LAB | Boston University
UROP | February 2015 – August 2015
Undergraduate researcher on a project modifying a fetal MRI reconstruction algorithm to run in a distributed manner on the cloud.

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

NEUROMORPHICS LABORATORY | Boston University
UROP | May 2013 – August 2013

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