Kevin Liao

kliao6@illinois.edu ↗ | www.kevliao.com ↗

Research Interests

Programming languages, security & privacy, cryptography, distributed systems

Education

M.S. in Computer Science, University of Illinois at Urbana-Champaign   Aug. 2017 - May 2019
Advisor: Andrew Miller

B.S. in Computer Science with Honors, Arizona State University   Aug. 2013 - May 2017
Advisor: Adam Doupé

Honors & Awards

National Science Foundation Graduate Research Fellowship   Aug. 2017 - Present

Outstanding Graduate in Computer Science, Arizona State University   May 2017

Moeur Award, Arizona State University   May 2017

Research Funding

SaUCy: Modular Testing and Verification for Distributed Cryptography   2018
Facebook, $50,000
PI: Andrew Miller, Co-PI: Kevin Liao

Publications

* = alphabetical authorship

Refereed Conferences

ILC: A Calculus for Composable, Computational Cryptography
Kevin Liao, Matthew Hammer, and Andrew Miller
Proceedings of the Conference on Programming Language Design and Implementation (PLDI), June 2019.

Behind Closed Doors: Measurement and Analysis of CryptoLocker Ransoms in Bitcoin
Kevin Liao, Ziming Zhao, Adam Doupé, and Gail-Joon Ahn
Proceedings of the Symposium on Electronic Crime Research (eCrime), June 2016.

Refereed Workshops

Incentivizing Blockchain Forks via Whale Transactions
Kevin Liao and Jonathan Katz
Proceedings of the Workshop on Bitcoin and Blockchain Research (BITCOIN), April 2017.

Books & Chapters

Ransomware and Cryptocurrency: Partners in Crime
Gail-Joon Ahn, Adam Doupé, Ziming Zhao, and Kevin Liao
Book chapter in *Cybercrime Through an Interdisciplinary Lens* ed. by Thomas J. Holt.

Manuscripts In Submission

A Probabilistic Separation Logic
Gilles Barthe, Justin Hsu, Kevin Liao*

Logging to the Danger Zone: In-Memory Attacks and Defenses on System Auditing Frameworks
Riccardo Paccagnella, Kevin Liao, Adam Bates, Dave (Jing) Tian

Black-Box Web Vulnerability Analysis Using White-Box Techniques
Kevin Liao, Connor Nelson, Zackary Crosley, and Adam Doupé

Professional Experience

Researcher, Max Planck Institute for Security & Privacy   Aug. 2019 - Present
Advisor: Gilles Barthe

Research Assistant, University of Illinois at Urbana-Champaign   Aug. 2017 - Aug. 2019
Advisor: Andrew Miller

Research Assistant, Arizona State University   May 2017 - Aug. 2017
Advisor: Adam Doupé

Undergraduate Research Assistant, University of Maryland   Jun. 2016 - Aug. 2016
Advisor: Jonathan Katz

Undergraduate Research Assistant, Arizona State University   Mar. 2015 - May 2017
Advisors: Gail-Joon Ahn, Adam Doupé, Ziming Zhao

Teaching

Teaching Assistant, University of Illinois at Urbana-Champaign   Fall 2018
CS498: Applied Cryptography

Undergraduate Teaching Assistant, Arizona State University   Spring 2017
CSE220: Programming for Computer Engineering

Undergraduate Teaching Assistant, Arizona State University   Fall 2016
CSE240: Introduction to Programming Languages

Undergraduate Teaching Assistant, Arizona State University   Fall 2014
CSE110: Introduction to Programming

Advising & Mentoring

Dhruv Bohra, Eunice Zhou   Fall 2018

Talks

ILC: A Calculus for Composable, Computational Cryptography   Jun. 2019
Conference on Programming Language Design and Implementation (Phoenix, AZ)

Incentivizing Blockchain Forks via Whale Transactions   Apr. 2017
Workshop on Bitcoin and Blockchain Research (Sliema, Malta)

Measurement and Analysis of CryptoLocker Ransoms in Bitcoin   Jun. 2016
Symposium on Electronic Crime Research (Toronto, CA)

Service & Outreach

Program Committee, IEEE International Conference on Blockchain and Cryptocurrency (ICBC)   2019

Course Developer, First Gen Scientists   Fall 2016