

Kevin Liao

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Research Interests

Security & privacy, programming languages, formal verification, cryptography

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](#) 2017

[Outstanding Undergraduate 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](#)

[Inductive Reverse Engineering of Web Applications](#) 2016–2017
Fulton Undergraduate Research Initiative, \$3,000
Advisor: Adam Doupé

Publications

* = alphabetical authorship

Refereed Conferences

[ILC: A Calculus for Composable, Computational Cryptography](#)
[Kevin Liao](#), Matthew A. 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

Experience

[Max Planck Institute for Security & Privacy](#)

Researcher

Advisor: Gilles Barthe

Bochum, Germany

Aug. 2019–Present

[Max Planck Institute for Software Systems](#)

Visiting Researcher

Advisor: Gilles Barthe

Saarbrücken, Germany

Aug. 2019–Present

[University of Illinois at Urbana-Champaign](#)

Research Assistant

Advisor: Andrew Miller

Champaign, IL, USA

Aug. 2017–Aug. 2019

[Arizona State University](#)

Research Assistant

Advisor: Adam Doupé

Tempe, AZ, USA

May 2017–Aug. 2017

[University of Maryland](#)

Undergraduate Research Assistant

Advisor: Jonathan Katz

College Park, MD, USA

Jun. 2016–Aug. 2016

[Arizona State University](#)

Undergraduate Research Assistant

Advisors: Gail-Joon Ahn, Adam Doupé, Ziming Zhao

Tempe, AZ, USA

Mar. 2015–May 2017

Teaching

[Teaching Assistant](#), University of Illinois at Urbana-Champaign

CS498: Applied Cryptography

Fall 2018

[Undergraduate Teaching Assistant](#), Arizona State University

CSE220: Programming for Computer Engineering

Spring 2017

CSE240: Introduction to Programming Languages

Fall 2016

CSE110: Introduction to Programming

Fall 2014

Advising & Mentoring

Dhruv Bohra, Eunice Zhou (UIUC PURE program)

Fall 2018

Talks

[ILC: A Calculus for Composable, Computational Cryptography](#)

Prosecco Seminar at INRIA Paris (Paris, France)

Sep. 2019

Conference on Programming Language Design and Implementation (Phoenix, AZ, USA)

Jun. 2019

Formal Methods Seminar at UIUC (Urbana, IL, USA)

Apr. 2019

[Incentivizing Blockchain Forks via Whale Transactions](#)

Workshop on Bitcoin and Blockchain Research (Sliema, Malta)

Apr. 2017

[Measurement and Analysis of CryptoLocker Ransoms in Bitcoin](#)

Symposium on Electronic Crime Research (Toronto, Canada)

Jun. 2016

Service

External

[External Reviewer](#), Computers & Security 2019

[Program Committee](#), ICBC 2019

[Subreviewer](#), USENIX Security 2019, FGCS 2018, CCS 2017

Community

[First Gen Scientists](#)

Curriculum developer

Fall 2016