

Kevin Liao

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Research Interests

Security & privacy, programming languages, cryptography, distributed systems

Education

M.S. in Computer Science , University of Illinois at Urbana-Champaign Advisor: Andrew Miller	Aug. 2017–May 2019
B.S. in Computer Science with Honors , Arizona State University Advisor: Adam Dou��	Aug. 2013–May 2017

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 Facebook, \$50,000 PI: Andrew Miller, Co-PI: Kevin Liao	2018
Inductive Reverse Engineering of Web Applications Fulton Undergraduate Research Initiative, \$3,000 Advisor: Adam Dou��	2016–2017

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 Dou  , 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 Dou  , 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 Cyber Security & Privacy](#)

Researcher

Advisor: Gilles Barthe

Bochum, Germany

Aug. 2019–Present

[Inria Sophia Antipolis - Méditerranée](#)

Visiting Researcher

Advisor: Gilles Barthe

Valbonne, France

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

CSE240: Introduction to Programming Languages

CSE110: Introduction to Programming

Spring 2017

Fall 2016

Fall 2014

Advising & Mentoring

Dhruv Bohra, Eunice Zhou (UIUC PURE program)

Fall 2018

Talks

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

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

Jun. 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

[Program Committee](#), ICBC '19

[Subreviewer](#), USENIX Security '20, FGCS '18, CCS '17

Outreach

[First Gen Scientists](#)

Course developer

Tempe, AZ, USA

Fall 2016