Fan Zhang

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EDUCATION	**Ph.D. Candidate in Computer Science**	Aug, 2014–present
	Advisor: Prof. Ari Juels	
	Dept. of Computer Science, Cornell University	
	B.S. in Electronic Engineering	Aug, 2010 – Jul, 2014
	Tsinghua University, Beijing, China	

RESEARCH Security and Privacy, Blockchains, Applied Cryptography, Trusted Hardware

INDUSTRY ADOPTION My research has led to direct industry adoption. Town Crier [10] was licensed from Cornell by Chainlink and Ekiden [2] is used in Oasis Labs' products. CHURP [3] is on Oasis Labs product roadmap. DECO [5] is under licensing negotiation.

AWARDS
- IBM PhD Fellowship Award — 2018-2020
- Academic Excellence Scholarship, Tsinghua University, China — 2013
- National Scholarship, the Ministry of Education of China — 2012
- Freshman Scholarship, Tsinghua University, China — 2010

SELECTED PUBLICATIONS

[1] I. Bentov, Y. Ji, **F. Zhang**, Y. Li, X. Zhao, L. Breidenbach, P. Daian, and A. Juels, "Tesseract: Real-time cryptocurrency exchange using trusted hardware," in *ACM CCS (to appear)*, 2019.

[2] R. Cheng, **F. Zhang**, J. Kos, W. He, N. Hynes, N. M. Johnson, A. Juels, A. Miller, and D. Song, "Ekiden: A platform for confidentiality-preserving, trustworthy, and performant smart contracts," in *IEEE EuroS&P*, 2019.

[3] S. K. D. Maram*, **F. Zhang***, L. Wang, A. Low, Y. Zhang, A. Juels, and D. Song, "CHURP: dynamic-committee proactive secret sharing," in *ACM CCS (to appear)*, ***indicates equal contribution**, 2019.

[4] **F. Zhang**, P. Daian, I. Bentov, I. Miers, and A. Juels, "Paralysis proofs: Secure dynamic access structures for cryptocurrency custody and more," in *ACM Conference on Advances in Financial Technologies (AFT)*, 2019.

[5] **F. Zhang**, S. K. D. Maram, H. Malvai, S. Goldfeder, and A. Juels, "DECO: Liberating web data using decentralized oracles for TLS," *CoRR*, vol. abs/1909.00938, 2019, Talk accepted to Real World Crypto (RWC) '20.

[6] E. Cecchetti, **F. Zhang**, Y. Ji, A. E. Kosba, A. Juels, and E. Shi, "Solidus: Confidential distributed ledger transactions via PVORM," in *ACM CCS*, 2017.

[7] F. Tramèr, **F. Zhang**, H. Lin, J. Hubaux, A. Juels, and E. Shi, "Sealed-glass proofs: Using transparent enclaves to prove and sell knowledge," in *IEEE EuroS&P*, 2017.

[8] **F. Zhang**, I. Eyal, R. Escriva, A. Juels, and R. van Renesse, "REM: resource-efficient mining for blockchains," in *USENIX Security*, 2017.

[9] F. Tramèr, **F. Zhang**, A. Juels, M. K. Reiter, and T. Ristenpart, "Stealing machine learning models via prediction apis," in *USENIX Security*, 2016.

[10] **F. Zhang**, E. Cecchetti, K. Croman, A. Juels, and E. Shi, "Town crier: An authenticated data feed for smart contracts," in *ACM CCS*, 2016.

WORKING EXPERIENCE	**Researcher** Oasis Labs	May, 2017 – Aug, 2017 Berkeley, CA
	Researcher SPR (Security & Privacy Research), Intel Labs	Jul, 2017 – Aug, 2017 Hillsboro, OR
	System developer intern Intel Opensource Technology Center (01.org)	Jun, 2013 – May, 2014 Beijing, China

TEACHING EXPERIENCE

- TA for CS5435: Security and Privacy in the Wild   2015, Fall
- TA for CS5300: the Architecture of Large-scale Information Systems   2015, Spring
- TA for CS4410: Operating Systems   2014 Fall

PROFESSIONAL ACTIVITY

- **Program Committee**: BITCOIN'18, collocated with Financial Crypto 2018.
- **Reviewer**: ACM Computing Surveys (2018), Nature Sustainability (2018)
- **Subreviewer**: USENIX Security (2016), TCC (2019), FC (2019)

INVITED TALKS

Connecting Blockchains to the Real World
- ETH Zürich, Switzerland.   Oct, 2019
- IBM Watson Research Center (IBM PhD fellow).   Sep, 2019

On Trusted Hardware and Blockchain Hybridization
- Northeastern University, Cybersecurity Speaker Series.   Jan, 2019
- MIT, CSAIL.   Nov, 2018
- New York University, CS Colloquium.   Oct, 2018

Paralysis Proof
- ACM AFT 2019, Zürich, Switzerland.   Oct, 2019
- IC3 Retreat, New York City.   May, 2018
- 5th Bitcoin Workshop, Financial Crypto'18, Curacao.   Mar, 2018

REM
- USENIX Security'17, Vancouver BC, Canada.   Aug, 2017

Town Crier
- Silicon Valley Ethereum Meetup, Santa Clara, CA.   Aug, 2017
- IC3 Retreat, San Francisco, CA.   Mar, 2017
- CCS'16, Vienna, Austria.   Oct, 2016
- IC3 Retreat, New York City.   May, 2016

SOFTWARE ARTIFACTS

- Town Crier: an Authenticated Data Feed For Smart Contracts
  https://town-crier.org
- CHURP: Dynamic-Committee Proactive Secret Sharing
  https://churp.io
- mbedtls-SGX: a SGX-friendly TLS stack (ported from mbedtls)
  https://github.com/bl4ck5un/mbedtls-SGX