

# Yibo Wang

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## Education

Syracuse University	Ph.D., Computer Science	08/2020 ~ Now
Syracuse University	M.S., Computer Engineering	05/2019
Huazhong University of Science and Technology (HUST)	B.E., Electrical Engineering	06/2016

## Publications

- Towards Understanding Crypto-Asset Risks on Ethereum Caused by Key Leakage on the Internet Yuxuan Zhou, Jiaqi Chen, **Yibo Wang**, Yuzhe Tang and G. Gu, *International World Wide Web Conference, 2024, short paper*
- Understanding the Security Risks of Decentralized Exchanges by Uncovering Unfair Trades in the Wild Jiaqi Chen, **Yibo Wang**, Yuxuan Zhou, Wanning Ding, Yuzhe Tang, Xiaofeng Wang, Kai Li, *8th IEEE European Symposium on Security and Privacy, 2023*
- Ethical Challenges in Blockchain Measurement Research Yuzhe Tang, Kai Li, **Yibo Wang**, Jiaqi Chen, *EthiCS 2023, Co-located with NDSS 2023*
- Towards Saving Blockchain Fees via Secure and Cost-Effective Batching of Smart-Contract Invocations **Yibo Wang**, Kai Li, Yuzhe Tang, Jiaqi Chen, Qi Zhang, Xiapu Luo, Ting Chen, *IEEE Transactions on Software Engineering 2023*
- Enabling Cost-Effective Blockchain Applications via Workload-Adaptive Transaction Execution **Yibo Wang**, Yuzhe Tang, *Poster ACM CCS 2022*
- iBatch: Saving Ethereum Fees via Secure and Cost-Effective Batching of Smart-Contract Invocations **Yibo Wang**, Qi Zhang, Kai Li, Yuzhe Tang, Jiaqi Chen, Xiapu Luo, Ting Chen, *ESEC/FSE 2021*
- DETER: Denial of Ethereum Txpool sERVICES Kai Li, **Yibo Wang**, Yuzhe Tang, *ACM CCS 2021*
- TopoShot: Uncovering Ethereum's Network Topology Leveraging Replacement Transactions Kai Li, Yuzhe Tang, Jiaqi Chen, **Yibo Wang**, Xianghong Liu, *ACM IMC 2021*
- Scalable Log Auditing on Private Blockchains via Lightweight Log-Fork Prevention Yuzhe Tang, Kai Li, **Yibo Wang**, Sencer Burak Somuncuoglu, *SERIAL@Middleware 2020*

## Research Project

### **Blockchain mempool security**

01/2021-Now

- Discover the vulnerability of transaction pool in Ethereum clients by reading source code, testing cases and fuzzing.
- Report 12 unique attacks that can deny the service of transaction pool with 0 or low cost. Receive Bug bounty from Ethereum Foundation \$4,000 (2023), \$12,000 (2021), \$2,000 (2022) and OpenEthereum/Parity \$8,000 (2021).
- Design defense against transaction pool DoS attacks by tightening the TxPool validation rules. Co-develop the patch code of the defense against transaction pool DoS attack and the code is merged in Geth client *V1.11.4*.
- Work as a contributor of Go-Ethereum (Geth) *V1.11.4*, <https://github.com/ethereum/go-ethereum/releases/tag/v1.11.4>.

### **Blockchain cost-effectiveness**

08/2020-Now

- Design a middleware system running on top of a blockchain network to optimize the cost of blockchain-based DApps.
- Achieve saving 14.6% ~ 59.1% Gas cost per invocation without losing security or causing extra delay.
- Implement start-contract rewriting techniques on source/bytecode for the integration of the middleware with legacy contract.

## Teaching

### **Guest Lecture, The State University of New York at Oswego (SUNY Oswego)**

04/18/2024

- Delivered a lecture on "Introduction to Blockchain and Web 3.0" for FIN 426 – Multi-National Financial Management at SUNY Oswego. This lecture was part of the curriculum taught by Dr. Hong Wan.

## Talks

- Towards the Comprehensive Understanding of Ethereum Mempool DoS Security **Yibo Wang**, Kai Li, Yuzhe Tang, *Consensusday 2022/Workshop of ACM CCS 2022*

## Work Experience

### **Fulton, Global Supply Chain, Pulaski, New York**

08-12/2019

- Provide IT support for supply chain groups. Communicate with suppliers about quotation, parts repair and get credit issues.

## Professional Services

Reviewer: TheWebConf'24, TDSC 2022

## Awards & Certification

CCS'22 workshop registration fellowship	<b>Protocol Lab</b>	10/2022
Graduate Award (50% tuition scholarship)	<b>Syracuse University</b>	05/2017