### sen.yang@yale.edu (Email)

# Sen Yang

<ul> <li>Yale University PhD in Computer Science</li> <li>Advisor: Dr. Fan Zhang</li> <li>Research Interests: Blockchain, DeFi, MEV, Applied Cryptography</li> </ul>	2022.08 – present
<ul> <li>Fudan University Master of Science in Computer Science <ul> <li>Advisor: Dr. Zhemin Yang</li> <li>Master's Thesis: Developer Footprint-Based Proactive Detection for Scam Websites</li> </ul> </li> </ul>	2019.09 - 2022.06
• Fudan University Bachelor of Engineering in Software Engineering	2015.09 - 2019.06
Experience	
• Research Assistant Yale University – Advisor: Dr. Fan Zhang	2022.08 - present

## Publications

- Sen Yang, Kartik Nayak, Fan Zhang. "Decentralization of Ethereum's Builder Market." S&P'25
- Sen Yang, Fan Zhang, Ken Huang, Xi Chen, Youwei Yang, Feng Zhu. "SoK: MEV Countermeasures." DeFi'24 Full version on arXiv: 2212.05111 [cs.CR]
- Rongwu Xu, Sen Yang, Fan Zhang, Zhixuan Fang. "MISO: Legacy-compatible Privacy-preserving Single Sign-on using Trusted Execution Environments." EuroS&P'23
- Jiawei Liu, Yuxiang Wei, **Sen Yang**, Yinlin Deng, Lingming Zhang. "Coverage-Guided Tensor Compiler Fuzzing with Joint IR-Pass Mutation." **OOPSLA'22**
- Geng Hong, Zhemin Yang, Sen Yang, Xiaojing Liao, Xiaolin Du, Min Yang, Haixin Duan. "Analyzing Ground-Truth Data of Mobile Gambling Scams." S&P'22
- Lei Zhang, Zhemin Yang, Yuyu He, Mingqi Li, **Sen Yang**, Min Yang, Yuan Zhang, Zhiyun Qian. "App in the middle: Demystify Application Virtualization in Android and its Security Threats." **SIGMETRICS'19**
- Geng Hong, Zhemin Yang, Sen Yang, Lei Zhang, Yuhong Nan, Zhibo Zhang, Min Yang, Yuan Zhang, Zhiyun Qian, Haixin Duan. "How You Get Shot in the Back: A Systematical Study about Cryptojacking in the Real World." CCS'18

## Preprint

- Sen Yang, Kaihua Qin, Aviv Yaish, Fan Zhang. "Insecurity Through Obscurity: Veiled Vulnerabilities in Closed-Source Contracts." arXiv: 2504.13398 [cs.CR]
- Mengqian Zhang, **Sen Yang**, Fan Zhang. "RediSwap: MEV Redistribution Mechanism for CFMMs." arXiv: 2410.18434 [cs.GT]
- Hongbo Chen, Quan Zhou, **Sen Yang**, Xing Han, Fan Zhang, Danfeng Zhang, Xiaofeng Wang. "AGORA: Open More and Trust Less in Binary Verification Service." arXiv: 2407.15062 [cs.CR]

## Selected Honors

• Outstanding Graduate of Fudan University

• Excellence in Engineering Award of Fudan University	2019.06
Scholarship for Outstanding Students of Fudan University First Class	2018.09
Selected Projects	
• Measuring the decentralization of Ethereum's builder market	2023.10 - 2024.09
<ul> <li>Developed a simulation framework using Reth to enable large-scale historical block simulation</li> <li>Proposed novel metrics including competitive index and efficient index to measure the decentr builder market.</li> </ul>	s. alization of Ethereum's
- Performed a quantitative analysis to assess the impact of private transactions on MEV-Boost	auctions in Ethereum.
• AGORA: a binary verification service with smaller TCB	2023.01 - 2023.10
<ul> <li>Implemented a smart contract to verify SGX DCAP remote attestation.</li> <li>Designed a mechanism to incentivize bug bounty hunters to verify binaries.</li> </ul>	
MISO: legacy-compatible privacy-preserving SSO protocol	2022.08 - 2023.03
<ul> <li>Provided security proofs for the TEE-based Single Sign-On protocol.</li> <li>Helped implement the prototype of MISO based on Intel SGX.</li> </ul>	
• Tzer: fuzzing deep learning compiler https://github.com/ise-uiuc/tzer (70 stars)	2021.07 - 2021.12
<ul> <li>Implemented a domain-specific mutation for effective tensor compiler fuzzing.</li> <li>Conducted a comparative experiment with Tzer and other state-of-the-art technologies.</li> <li>Identified 32 bugs of TVM, one of the most popular tensor compilers (11.8k stars), and helped</li> </ul>	to fix 13 of them.
• CTF Wiki ctf-wiki.org, github.com/ctf-wiki/ctf-wiki (8.3k stars)	2021.04
<ul> <li>Added materials about blockchain and smart contract security to CTF Wiki, a well-known res CTF knowledge, aiming to spread blockchain security awareness.</li> </ul>	source for security and
Skills	
• Languages: Native Chinese; Fluent English	
• <b>Programming Languages</b> : Python = JavaScript = Java = Solidity > Rust > Go = C/O	2++
Other Experiences	
• Sub-Reviewer of CCS'18, AsiaCCS'20, CCS'22, AFT'23/'24, USENIX Security'24/'25	, ICDCS 2025
• Teaching Assistant Full Stack Web Programming, Yale University	2025 Spring
• Teaching Assistant Computer System Security, Yale University	2024 Fall
• Grader Introduction to Blockchains, Yale University	2023 Fal

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- 2022 Spring • Teaching Assistant Compilers, Fudan University 2021 Fall
  - Teaching Assistant Computer Network, Fudan University ٠
  - Teaching Assistant Web Fundamentals, Fudan University •
- Volunteer of PC Service volunteering team 2015.09 - 2016.06

2018 Spring