

# Yuzhe Tang

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## Appointments

2022 - Now Associate Professor, Department of EECS, Syracuse University  
2014 - 2022 Assistant Professor, Department of EECS, Syracuse University

## Education

Ph.D. *Georgia Institute of Technology* (Atlanta, GA USA), 2009-2014  
M.Sc. *Fudan University* (Shanghai, China), 2006-2009  
B.Sc. *Fudan University* (Shanghai, China), 2002-2006

## Research Interests

I am interested in the intersection between cybersecurity and systems. My research mission is to bring **systems security and efficiency to large-scale, emerging/evolving infrastructures and applications**. 1) On the cyber-security front, I am interested in applying formal methods, protocol analysis, automated program analysis, and software testing techniques to discover vulnerabilities, detect attacks, and design secure systems. I am also interested in the security-oriented measurement of large-scale systems. 2) On the systems front, I am interested in workload analysis, benchmarking, design of optimization schemes and middleware in various host systems.

My recent research focuses on decentralized systems like public blockchains. I tackle the systems security/efficiency challenges at different blockchain layers, including application-level DeFi protocol, smart contracts, down to the systems-level consensus implementations, P2P networking, and web3.0 infrastructures. I am particularly interested in discovering and fixing design flaws in blockchains and DeFi applications using formal methods. My recent research on blockchain mempool security is well recognized in the Ethereum/blockchain developer community. Besides, I am developing and disseminating blockchain educational materials.

In the past, I worked on confidential computing, trusted execution environments, applied privacy-preserving protocols, and cloud security.

## Research Funds

- Total amount: 2.01 million USD
- My share: 1.87 million USD
  - 1.43 million USD from NSF

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|-----------|---|
| 2022-2025 | CNS Core: Small: One Size doesn't Fit All: Workload-Aware Cost Optimization for Decentralized Applications on Blockchains<br>Yuzhe Tang (Single PI), \$498,624 (100%)<br>National Science Foundation ( <b>NSF</b> )   |
| 2022-2023 | DoS-secure transaction propagation on Ethereum: Exploit generation and attack detection<br>Yuzhe Tang (Single PI), \$84,392 (100%)<br>Ethereum Foundation   |
| 2021-2024 | Collaborative Research: SaTC: EDU: Developing Instructional Laboratories for Blockchain Security Applications,<br>Yuzhe Tang (PI), Jing Lei, Farzana Rahman, Hongmei Chi.<br>Total: \$399,995 + \$16,000 (REU), my share: \$356,000 (86%)<br>National Science Foundation ( <b>NSF</b> ) |
| 2018-2022 | SaTC: Small: External Obliviousness in Trusted Execution Environments<br>Yuzhe Tang (Single PI), \$496,999 + \$16,000 (100%)<br>National Science Foundation ( <b>NSF</b> )  |
| 2019-2020 | Planning IUCRC Syracuse University: Center for High-Assurance Secure Systems and IoT (CHASSI)<br>Shiu-Kai Chin (PI), Yuzhe Tang (Co-PI), \$15,000<br>National Science Foundation ( <b>NSF</b> )   |

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| 2018-2020                | SGX-based Key-Management Applications in the Cloud<br>Yuzhe Tang (Single PI), \$9,996 (100%)<br>Intel Gift  |
| 2017-2018                | Cryptographic Engineering on Modern Trusted Platforms<br>Yuzhe Tang (PI), Wenliang Du (Co-PI)<br>Total: \$300,000, my share: \$200,000 (66%)<br>National Security Agency ( <b>NSA</b> ) |
| 2017-2017                | Secure Multi-Party Databases by Oblivious Query Translation and Execution<br>Yuzhe Tang (PI), \$13,200 (100%)<br>Air Force Research Lab Visiting Faculty Research Program               |
| 2015-2016                | Optimizing Privacy-Preserving Analytics in Information Networks<br>Yuzhe Tang (PI), \$69,861 (100%)<br>Cyber Research Institute (CRI)   |
| <i>Bug bounty awards</i> | Bug bounty from Ethereum Foundation<br>\$12,000 (2021), \$2000 (2022)<br>Bug bounty from OpenEthereum/Parity<br>\$8,000 (2021)  |
| <i>Internal Grants</i>   |   |
| 2021-2023                | Workload-Adaptive Designs for Cost-Effective Decentralized Applications on Blockchains<br>Yuzhe Tang (Single PI), \$21,000,<br>CUSE Grant (Syracuse University Internal Grant)          |
| 2018-2020                | On-Campus Blockchain Applications for Education and Beyond<br>Wenliang Du (PI), Yuzhe Tang (Co-PI), \$30,000<br>CUSE Grant (Syracuse University Internal Grant)                         |
| 2018-2020                | Efficient Algorithms for Secure, Large-Scale Graph Mining<br>Yuzhe Tang (PI), Sucheta Soundarajan (Co-PI), \$30,000<br>CUSE Grant (Syracuse University Internal Grant)                  |

## Publications

- Underline indicates students advised by Dr. Yuzhe Tang

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|------------------------|--|
| <b>WWW 24</b>          | Characterizing Ethereum Upgradable Smart Contracts and Their Security Implications<br>Xiaofan Li, <u>Jin Yang</u> , <u>Jiaqi Chen</u> , Yuzhe Tang, Xing Gao<br>The Web Conference, 2024   |
| <b>Euro S&amp;P 23</b> | Understanding the Security Risks of Decentralized Exchanges by Uncovering Unfair Trades in the Wild<br><u>Jiaqi Chen</u> , <u>Yibo Wang</u> , <u>Yuxuan Zhou</u> , <u>Wanning Ding</u> , Yuzhe Tang, XiaoFeng Wang, <u>Kai Li</u><br>8th IEEE European Symposium on Security and Privacy, 2023 |
| TC 23                  | BlockExplorer: Exploring Blockchain Big Data via Parallel Processing<br>Shipeng Li, Jingwei Li, Yuxing Tang, Xiapu Luo, Zheyuan He, Zihao Li, Xi Cheng, Yang Bai, Ting Chen, Yuzhe Tang, Zhe Liu, Xiao-song Zhang<br>IEEE Transactions on Computers  |
| EthiCS 23              | Ethical Challenges in Blockchain Measurement Research<br>Yuzhe Tang, <u>Kai Li</u> , <u>Yibo Wang</u> , <u>Jiaqi Chen</u><br>The 2nd International Workshop on Ethics in Computer Security (EthiCS 2023), Co-located with NDSS 2023  |
| <b>TSE 23</b>          | Towards Saving Blockchain Fees via Secure and Cost-Effective Batching of Smart-Contract Invocations<br><u>Yibo Wang</u> , <u>Kai Li</u> , <u>Jiaqi Chen</u> , Yuzhe Tang, <u>Qi Zhang</u> , Xiapu Luo, Ting Chen<br>TSE (IEEE Transactions on Software Engineering)                            |
| ConsensusDay 22        | Towards the Comprehensive Understanding of Ethereum Mempool DoS Security<br><u>Yibo Wang</u> , <u>Kai Li</u> , Yuzhe Tang<br>Consensus Day 22, Co-located with CCS 2022  |
| CCS 22p                | Enabling Cost-Effective Blockchain Applications via Workload-Adaptive Transaction Execution<br><u>Yibo Wang</u> , Yuzhe Tang<br>ACM Conference on Computer and Communications Security (CCS) 2022, Poster  |
| <b>CCS 21</b>          | <i>DETER: Denial of Ethereum's Txpool-based seRvices</i><br><u>Kai Li</u> , <u>Yibo Wang</u> , Yuzhe Tang<br>ACM Conference on Computer and Communications Security (CCS) 2021   |
| <b>IMC 21</b>          | <i>TopoShot: Uncovering Ethereum's Network Topology Leveraging Replacement Transactions</i><br><u>Kai Li</u> , Yuzhe Tang, <u>Jiaqi Chen</u> , <u>Yibo Wang</u> , <u>Xianghong Liu</u><br>ACM Internet Measurement Conference (IMC) 2021<br>Acceptance rate=28%                                |
| <b>NDSS 21</b>         | <i>As Strong As Its Weakest Link: How to Break Blockchain DApps at RPC Service</i>   |

Kai Li, Jiaqi Chen, Xianghong Liu, Yuzhe Tang, XiaoFeng Wang, Xiapu Luo  
The Network and Distributed System Security Symposium (NDSS) 2021  
Acceptance rate=15.2%

**FSE 21** *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  
ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE) 2021  
Acceptance rate=24.5%

Middleware 21i *Authenticated Key-Value Stores with Hardware Enclaves*  
Kai Li, Yuzhe Tang, Qi Zhang, Jianliang Xu, Ju Chen  
ACM/IFIP Middleware 2021 (Industrial track)

ToNSE 21 *VFChain: Enabling Verifiable and Auditable Federated Learning via Blockchain Systems*  
Zhe Peng, Jianliang Xu, Xiaowen Chu, Shang Gao, Yuan Yao, Rong Gu, Yuzhe Tang  
IEEE Transactions on Network Science and Engineering (ToNSE) 2021

**Middleware 20** *Cost-Effective Data Feeds to Blockchains via Workload-Adaptive Data Replication*  
Kai Li, Yuzhe Tang, Jiaqi Chen, Zhehu Yuan, Cheng Xu, Jianliang Xu  
ACM/IFIP Middleware conference 2020  
Acceptance rate=25.2%

SERIAL 20 *Scalable Log Auditing on Private Blockchains via Lightweight Log-Fork Prevention*  
Yuzhe Tang, Kai Li, Yibo Wang, Sencer Burak Somuncuoglu  
Workshop on Scalable and Resilient Infrastructures for Distributed Ledgers 2020, co-located with ACM/IFIP Middleware conference 2020

**ICDE 19** *GEM<sup>2</sup>-Tree: A Gas-Efficient Structure for Authenticated Range Queries in Blockchain*  
Ce Zhang, Cheng Xu, Jianliang Xu, Yuzhe Tang, Byron Choi  
IEEE 36th International Conference on Data Engineering (ICDE) 2020  
Acceptance rate=26.8%

SecureComm19 *Secure Consistency Verification for Untrusted Cloud Storage by Public Blockchains*  
Kai Li, Yuzhe Tang, Beom Heyn Kim, Jianliang Xu  
SecureComm 2019

SecureComm19 *Authenticated LSM Trees with Minimal Trust*  
Yuzhe Tang, Ju Chen, Kai Li  
SecureComm 2019 (Short paper)

CISSE 19 *Hands-on Labs for Secure Programming on Modern Trusted Platforms*  
Yuzhe Tang, Wenliang Du  
The Colloquium For Information Systems Security Education, 2019

ASONAM 19p *Computing Node Clustering Coefficients Securely*  
K. Areekijseeree, Yuzhe Tang, Sucheta Soundarajan  
IEEE ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), 2019, Poster

SecureComm18 *Secure and Efficient Multi-Party Directory Publication for Privacy-Preserving Data Sharing*  
K. Areekijseeree, Ju Chen, Yuzhe Tang, Shuang Wang, Arun Iyengar and B. Palanisamy  
SecureComm 2018, Acceptance rate=30.6%

Cloud 18 *ChainFS: Blockchain-Secured Cloud Storage*  
Qiwu Zou, Yuzhe Tang, Ju Chen, Kai Li, Charles Kamoua, Kevin Kwiat, Laurent Njilla  
IEEE Cloud 2018, Acceptance rate=20%

Cloud 18 *Pinchao Liu, Liting Hu, Hailu Xu, Zhiyuan Shi, Jason Liu, Qingyang Wang, Jai Dayal and Yuzhe Tang*  
*A Toolset for Detecting Containerized Application's Dependencies in CaaS Clouds*  
IEEE Cloud 2018, Acceptance rate=20%

Cloud 18 *Hailu Xu, Liting Hu, Pinchao Liu, Yao Xiao, Wentao Wang, Jai Dayal, Qingyang Wang and Yuzhe Tang*  
*Oases: An Online Scalable Spam Detection System for Social Networks*  
IEEE Cloud 2018, Acceptance rate=20%

FC 18w *Lightweight Blockchain Logging for Data-Intensive Applications*  
Yuzhe Tang, Zihao Xing, Cheng Xu, Ju Chen, Jianliang Xu  
The Workshop of Trusted Smart Contract at the International Conference of Financial Cryptography 2018

TVT 18 *Non-interactive Identity-based Underwater data transmission with Anonymity and Zero-knowledge*  
Changsheng Wan, Vir V Phoha, Yuzhe Tang, Aiqun Hu  
IEEE Transactions on Vehicular Technology 2017

CIC 17 *PADS: Privacy-preserving Auction Design for Allocating Dynamically Priced Cloud Resources*  
Jinlai Xu, Balaji Palanisamy, Yuzhe Tang, SD Madhu Kumar  
IEEE CIC 2017

SOSP 17w *Strongly Secure and Efficient Data Shuffle on Hardware Enclaves*  
Ju Chen, Yuzhe Tang, Hao Zhou  
The Workshop of Systems Software for Trusted Execution (SysTEX) at ACM SOSP 2017

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|--------------------------|--|
| ICDCS 17p                | <i>Towards Secure Public Directory for Privacy-Preserving Data Sharing</i><br>Amin Fallahi, Xi Liu, Yuzhe Tang, Shuang Wang, Rui Zhang<br>IEEE International Conference on Distributed Computing Systems, Poster   |
| ICDCS 17w                | <i>Social-Aware Decentralization for Efficient and Secure Multi-Party Computation</i><br>Yuzhe Tang, Sucheta Soundarajan<br>The Workshop of Big-Data Privacy and Security at IEEE International Conference on Distributed Computing Systems                            |
| BMC 16                   | <i>Secure Multi-party Computation Grid LOGistic REGression (SMAC-GLORE)</i><br>Haoyi Shi, Chao Jiang, Wenrui Dai, Xiaoqian Jiang, Yuzhe Tang, Lucila Ohno-Machado and Shuang Wang<br>BMC Medical Informatics and Decision Making <a href="#">[open access]</a>         |
| SecDev 16                | <i>Towards Building Practical And Secure Multi-Party Databases</i><br>Yuzhe Tang, Wenqing Zhuang<br>IEEE Cyber-security Development Conference 2016 (Abstract)   |
| <b>Bioinformatics 16</b> | <i>HEALER: Homomorphic computation of ExAct Logistic rEGression for secure rare disease variants analysis in GWAS</i><br>Shuang Wang, Y. Zhang, W. Dai, K. Lauter, M. Kim, Yuzhe Tang, X. Jiang<br>Oxford Journals Bioinformatics, doi: 10.1093/bioinformatics/btv563  |
| BMC 15                   | <i>Privacy-preserving GWAS analysis on federated genomic datasets</i><br>Scott D Constable, Yuzhe Tang, Shuang Wang, Xiaoqian Jiang, Steve Chapin<br>BMC Medical Informatics and Decision Making 2015, <a href="#">[Open access]</a>                                   |
| <b>TKDE 15</b>           | <i>Privacy-Preserving Multi-Keyword Search in Information Networks</i><br>Yuzhe Tang, Ling Liu<br>IEEE Transaction of Knowledge and Data Engineering 27(9): 2424-2437 (2015)   |
| CCGrid 15                | <i>Deferred Lightweight Indexing for Log-Structured Key-Value Stores</i><br>Yuzhe Tang, Arun Iyengar, Wei Tan, Liana Fong, Ling Liu, Balaji Palanisamy<br>IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing 2015: 11-20<br><b>Best Paper Award</b> |
| HPBDC 15                 | <i>KTV Tree: Interactive Top-K Aggregation on Large Dataset in Cloud</i><br>Yuzhe Tang, Ling Liu, Junichi Tatemura, Hakan Hacigumus<br>IEEE International Conference of Distributed Computing Systems Workshops 2015: 136-141  |
| HotCloud 15              | <i>Privacy-Preserving Offloading of Mobile App to the Public Cloud</i><br>Yue Duan, Mu Zhang, Heng Yin, Yuzhe Tang<br>USENIX Workshop on Hot Topics in Cloud Computing 2015<br>Acceptance rate=32.8%   |
| TBC 15                   | <i>Secure Multi-party Computation on Grid Logistic Regression</i><br>Haoyi Shi, Shuang Wang, Wenrui Dai, Yuzhe Tang, Xiaoqian Jiang, Lucila Ohno-Machado<br>Annual Translational Bioinformatics Conference 2015  |
| <b>ACSAC 14</b>          | <i>Lightweight Authentication of Freshness in Outsourced Key-Value Stores</i><br>Yuzhe Tang, Ling Liu, Xin Hu, Jiyong Jang<br>USENIX/ACM Annual Computer Security Applications Conference 2014: 176-185<br>Acceptance rate=19.9%                                       |
| <b>ICDCS 14</b>          | <i>e-PPI: Locator Service in Information Networks with Personalized Privacy Preservation</i><br>Yuzhe Tang, Ling Liu, Arun Iyengar<br>IEEE International Conference of Distributed Computing Systems 2014: 186-197<br>Acceptance rate=13%                              |
| <b>EDBT 14</b>           | <i>Diff-Index: Differentiated Index in Distributed Log-Structured Data Stores</i><br>Wei Tan, Sandeep Tata, Yuzhe Tang, Liana Fong<br>International Conference on Extending Database Technology 2014: 700-711<br>Acceptance rate=20%                                   |
| JDPD 14                  | <i>Anonymizing Continuous Queries with Delay-tolerant Mix-zones on Road Networks</i><br>Balaji Palanisamy, Ling Liu, Kisung Lee, Shicong Meng, Yuzhe Tang<br>International Journal of Distributed and Parallel Databases 32(1): 91-118 (2014)                          |
| ICDE 14d                 | <i>Outsourcing multi-version key-value stores with verifiable data freshness</i><br>Yuzhe Tang, Ling Liu, Ting Wang, Xin Hu, Reiner Sailer, Peter Pietzuch<br>IEEE International Conference on Data Engineering 2014: 1214-1217 (Demo paper)                           |
| <b>TPDS 13</b>           | <i>Auto-pipelining for Data Stream Processing</i><br>Yuzhe Tang, Bugra Gedik<br>IEEE Trans. Parallel Distrib. Syst. 24(12): 2344-2354 (2013)   |
| Cloud 13                 | <i>Residency Aware Inter-VM Communication in Virtualized Cloud: Performance Measurement and Analysis</i><br>Qi Zhang, Ling Liu, Yi Ren, Kisung Lee, Yuzhe Tang, Xu Zhao, Yang Zhou<br>IEEE International Conference on Cloud Computing 2013: 204-211                   |
| Cloud 13                 | <i>Efficient and Customizable Data Partitioning Framework for Distributed Big RDF Data Processing in the Cloud</i><br>Kisung Lee, Ling Liu, Yuzhe Tang, Qi Zhang, Yang Zhou<br>IEEE International Conference on Cloud Computing 2013: 327-334                          |
| MSN 12                   | <i>Location Privacy with Road Network Mix-Zones</i>  |

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| Cloud 12 | Balaji Palanisamy, Ling Liu, Kisung Lee, Shicong Meng, Yuzhe Tang<br>IEEE International Conference on Mobile Ad-hoc and Sensor Networks 2012: 124-131<br><i>Reliable State Monitoring in Cloud Data Centers</i>                                 |
|          | Shicong Meng, Arun Iyengar, I. Rouvellou, Ling Liu, Kisung Lee, Balaji Palanisamy, Yuzhe Tang<br>IEEE International Conference on Cloud Computing 2012: 951-958<br><b>Best Paper Award</b>  |
|          |   |
| CIKM 11  | <i>Privacy Preserving Indexing for eHealth Information Networks</i><br>Yuzhe Tang, Ting Wang, Ling Liu, Shicong Meng, Balaji Palanisamy<br>Conference on Information and Knowledge Management 2011: 905-914<br>Acceptance rate=15% (Full paper) |
| TPDS 11  | <i>A Lightweight Multi-dimensional Index for Complex Queries over DHTs</i><br>Yuzhe Tang, Jianliang Xu, Shuigeng Zhou, Wang-Chien Lee, Dingxiong Deng, Yue Wang<br>IEEE Trans. Parallel Distrib. Syst. 22(12): 2046-2054 (2011)                 |
| TKDE 10  | <i>LIGHT: A Query-Efficient yet Low-Maintenance Indexing Scheme over DHTs</i><br>Yuzhe Tang, Shuigeng Zhou, Jianliang Xu<br>IEEE Transaction of Knowledge and Data Engineering 22(1): 59-75 (2010)  |
| ICDCS 09 | <i>m-LIGHT: Indexing Multi-Dimensional Data over DHTs</i><br>Yuzhe Tang, Jianliang Xu, Shuigeng Zhou, Wang-Chien Lee<br>IEEE International Conference of Distributed Computing Systems 2009: 191-198<br>Acceptance rate=16%                     |
| ICDCS 08 | <i>LHT: A Low-Maintenance Indexing Scheme over DHTs</i><br>Yuzhe Tang, Shuigeng Zhou<br>IEEE International Conference of Distributed Computing Systems 2008: 141-151  |

## Patents

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|------|---|
| 2015 | Adaptive Auto-pipelining in Stream Processing Applications<br>Bugra Gedik, Scott A. Schneider, Yuzhe Tang, Kun-lung Wu<br>US patent granted (US9098350B2) |
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## Teaching

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|-------------|--|
| Fall 2022   | CIS629/FIN629, <i>Blockchain Foundation and Applications</i>   |
| Spring 2022 | CSE384, <i>Introduction to Systems Programming</i>   |
| Fall 2021   | CIS629/FIN629, <i>Blockchain Foundation and Applications</i>   |
| Fall 2020   | CIS600/FIN600, <i>Cryptocurrencies and Blockchains</i>   |
| Fall 2019   | CIS600/FIN600, <i>Cryptocurrencies and Blockchains</i><br>CIS628/CIS428, <i>Introduction to Applied Cryptography</i>                 |
| Spring 2019 | CSE384, <i>System Programming</i>  |
| Fall 2018   | CIS600/FIN600, <i>Blockchain and Cryptocurrency</i>  |
| Spring 2018 | CIS300, <i>Introduction to System Programming</i>  |
| Fall 2017   | CIS700, <i>Modern Information Security and Privacy</i>   |
| Spring 2017 | CIS/CSE600, <i>Applied Cryptography</i><br>CIS655/CSE661, <i>Advanced Computer Architecture</i><br>CIS423, <i>System Programming</i> |
| Spring 2016 | CIS700/CSE791, <i>Big-Data and Cloud Security</i> , website: <a href="#">[link]</a>  |
| Fall 2015   | CIS655/CSE661, <i>Advanced Computer Architecture</i> , website: <a href="#">[link]</a>   |
| Spring 2015 | CIS700/CSE791, <i>Distributed Systems in Cloud</i> , website: <a href="#">[link]</a>   |
| Fall 2014   | CIS655/CSE661, <i>Advanced Computer Architecture</i> (180 students)  |

## Advising

### Ph.D. students

- Yibo Wang: FSE'21 (1st author), IMC'21, CCS'21, CCS'22 Poster (1st author), ConsensusDay'22 (1st author)
- Jiaqi Chen: NDSS'21, IMC'21, FSE'21, Middleware'20
- Yuxuan Zhou
- Wanning Ding: Ethereum Protocol Fellowship'22 awardee
- Zhihua Yang
- Jin Yang
- Xianghong Liu (on leave): NDSS'21, IMC'21

### Undergraduate students (REU)

- Jack Willis, Eniola Mosaku, Nicholas Sweet



## Masters

- Gina Roh

## Alumni

- Dr. Kai Li (Ph.D., 2022), Tenure-track Assistant Professor in CS dept. at San Diego State Univ.
  - 1st-author papers (during Ph.D.): *CCS'21*, *IMC'21*, *NDSS'21*, *Middleware'20*, etc.
  - Internships: IBM Research '20, Amazon '21
  - Award: NortonLife Ph.D. fellowship finalist '22
- M.Sc.: Vinutha Karanth (Microsoft), Sencer Burak Somuncuoglu (Chainalysis), Kang Lou, Qi Zhang (CertiK), Katchaguy Areekijseree (PhD at Syracuse Univ.), Hari Krishna Gajarla (Bloomberg)
- B.Sc. (including REU): Zhehu Yuan (Ph.D. at NYU), Qiwu Zou (Cornell Univ.), Congcong Xie (NYU, then Oracle), Adam Piekarski, Jeong Bin Oh (A database startup), Sharell Scott (Google)
- Visiting scholar: Cheng Xu (Postdoc at Simon Fraser Univ.)

## Professional Services

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| Program committee chair | BlockDM 21/20/19 (The International Workshop of Blockchain and Data Management, co-located with ICDE)<br>GLSD 20/18 (Great Lake Security Day)<br><b>WWW 24</b> (Security Area Chair at The Web Conference)   |
| Program committee       | <b>NDSS 24</b> (Network and Distributed System Security Symposium)<br><b>ACSAC 24/23</b> (Annual Computer Security Applications Conference (ACSAC))<br><b>IEEE Euro S&amp;P 24/23</b> (IEEE European Symposium on Security and Privacy)<br><b>WWW 24/21/20</b> (The Web Conference)<br><b>RAID 24</b> (International Symposium on Research in Attack, Intrusions and Defenses)<br>IEEE ICDCS 23/20/17/15 (IEEE International Conference on Distributed Computing Systems)<br>ICCCN 23 (The 32nd International Conference on Computer Communications and Networks)<br>MetaCom 23 (IEEE International Conference on Metaverse Computing, Networking and Applications)<br>IEEE DSC 23/22 (6th/5th IEEE Conference on Dependable and Secure Computing)<br>SecureComm 22 (EAI International Conference on Security and Privacy in Communication Networks)<br>EthiCS 22 (The 1st International Workshop on Ethics in Computer Security)<br>ICICS 22/21 (The 23rd/24th International Conference on Information and Communications Security)<br>IEEE MASS 22 (The 19th IEEE International Conference on Mobile Ad-Hoc and Smart Systems)<br>IPDPS 18 (32nd IEEE International Parallel and Distributed Processing)<br>EuroSys 18 (shadow) (The European Conference on Computer Systems)<br>IEEE Cloud 15 (IEEE 8th International Conference on Cloud Computing)<br>PAIS 16/15 (9th/8th International Workshop on Privacy and Anonymity in the Information Society) |
| Journal reviewer        | TDSC 22 (IEEE Transactions on Dependable and Secure Computing)<br>TIFS 22 (IEEE Transactions on Information Forensics and Security)<br>TKDE 22/17/16/15 (IEEE Transactions on Knowledge and Data Engineering)<br>TPDS 22 (IEEE Transactions on Transactions on Parallel and Distributed Systems)<br>ToIT 22 (ACM Transactions on Internet Technology)<br>BCRA 22 (BlockChain: Research and Applications)<br>TNSE 22/21 (IEEE Transactions on Network Science and Engineering)<br>TCC 22 (IEEE Transactions on Cloud Computing)<br>JPDC 22 (Journal of Parallel and Distributed Computing)<br>COSE 22 (Computers and Security COSE)<br>ACM TOCS 17 (ACM Transactions on Computer Systems)<br>ACM ToIT 21 (ACM Transactions on Internet Technology)<br>IEEE TSC 21/17/16/15 (IEEE Transactions on Services Computing)<br>IEEE TCC 21/15 (IEEE Transactions on Cloud Computing)<br>JBFT 20 (Journal of Banking and Financial Technology)<br>IEEE Computer Magazine 17<br>TWeb 15 (ACM Transactions on the Web)<br>IEEE TCSVT 14 (IEEE Transactions on Circuits and Systems for Video Technology)  |
| Panel review            | NSF panel 16, 20 (twice), 21, 23   |
| Campus services         | EECS ABET Assessment and Accreditation committee<br>EECS Faculty Search Committee, EECS ABET Assessment and Accreditation committee<br>University academic integrity panel, MAE program review<br>ECS research day poster judge, 22  |

## Internship/Industrial Experience

2022 - Now      Avant fund adviser (Part-time), a blockchain investment firm ([www.avant.fund](http://www.avant.fund))  
05/2013-08/2013    Internship at IBM Research (T.J. Watson Lab) at Yorktown Heights, NY USA  
05/2012-08/2012    Internship at IBM Research (T.J. Watson Lab) at Yorktown Heights, NY USA  
05/2011-08/2011    Internship at IBM Research (T.J. Watson Lab) at Hawthorn, NY USA  
05/2010-08/2010    Internship at NEC Labs America at Cupertino, CA USA  
01/2009-06/2009    Internship at Microsoft Research Asia at Beijing, China  
01/2006-04/2006    Internship at IBM Corp. at Shanghai, China

## Honors and Awards

- Ethereum Foundation Academic Grant Awardee, 2022
- Air Force Research Lab (AFRL) Visiting Faculty Research Award, 2017
- Best paper award, 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, 2015
- Chinese Government Award for Outstanding Self-financed Students Abroad, 2012
- Best paper award, 5th International Conference on Cloud Computing, 2012
- Outstanding Master Thesis of Shanghai, Shanghai Government, 2010
- Tung's Oriental Scholarship, Tung's Oriental, 2008
- HP Distinguished Chinese Student Scholarship, Hewlett-Packard, 2008
- ICDCS Student Travel Grant, TCDP (IEEE Computer Society), 2008
- Graduate Student Fellowship of Fudan University, 2007-2008 (2 times)
- Outstanding Graduated Student of Fudan University, 2006
- Excellence Award, Tencent Innovation Contest, 2006
- The Peoples Scholarship of Fudan University, 2002-2006 (4 times)
- Chinese Physics Olympiads, First Prize in Hunan Province, 2001

## Invited Talks

### Research talks

- Understanding and Hardening Decentralized Systems Security in the Wild
  - Notre Dame '22 [\[link\]](#), NUS '22 [\[link\]](#), UK Security and Privacy seminar '22 [\[link\]](#), Ohio State University '21, University of Louisiana at Lafayette '21 [\[pdf\]](#), Consensus day '21
- Lightweight Data Authentication in Outsourced Key-Value Stores
  - Cornell University '17 [\[link\]](#), Xi'an Jiao Tong University '17, Fudan University '16), Louisiana State University '14
- Searching HIE with Differentiated Privacy Preservation
  - HealthTech '14, co-located with USENIX Security, San Diego, CA
- Scalable and secure cloud service in big data systems
  - University of Delaware '14, North Kentucky University '14, NEC Lab '14, IBM Research '14, Missouri University of Science and Technology

### Panel

- Blockchain Database, VLDB '21 panel [\[link\]](#).

### Lectures to the general public

- Public lecture: "Get Your Head In The Clouds! Cloud Computing: Risks and Rewards"
  - TACNY Junior Cafe Scientifique, Museum of Science & Technology, Syracuse ('17)
  - NSBE (National Society of Black Engineers) Jr. Science Camp. hosting Grades 7 - 12 in Syracuse City School District ('17)
- Public lecture: "Blockchain: Applications, Security Promises and Internals"
  - CSIAC ('17), Syracuse University Alumni Event ('21)

### Public service

- Serving a panel in "Research 101" hosted by the Society of Hispanic Professional Engineers (SHPE), Oct. 22