

Peiyao Sheng

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📁 [simplespy.github.io](https://github.com/simplespy)

Education

- Sept 2021 – **Ph.D., Computer Science.**
Present University of Illinois, Urbana-Champaign
- Sept 2019 – **M.S., Computer Science.**
May 2021 University of Illinois, Urbana-Champaign
- Sept 2015 – **B.S., Computer Science and Technology.**
June 2019 ACM Honors Class (an elite CS program for top 5% talented students)
Zhiyuan College, Shanghai Jiao Tong University, China

Publications

- AFT 2024 Peiyao Sheng, Ranvir Rana, Himanshu Tyagi, Pramod Viswanath. *“Proof of Diligence: Cryptoeconomic Security for Rollups”*, Advances in Financial Technologies.
- AFT 2024 Weizhao Tang, Peiyao Sheng, Pronoy Roy, Xuechao Wang, Giulia Fanti, Pramod Viswanath. *“CFT-Forensics: High-Performance Byzantine Accountability for Crash Fault Tolerant Protocols”*, Advances in Financial Technologies.
- NDSS 2024 Peiyao Sheng, Nikita Yadav, Vishal Sevani, Arun Babu, SVR Anand, Himanshu Tyagi, Pramod Viswanath. *“Proof of Backhaul: Trustfree Measurement of Broadband Bandwidth”*, The Network and Distributed System Security (NDSS) Symposium.
- CCS 2023 Peiyao Sheng, Xuechao Wang, Kartik Nayak, Sreeram Kannan, Pramod Viswanath. *“TrustBoost: Boosting Trust among Interoperable Blockchains”*, ACM Conference on Computer and Communication Security.
- FC 2023 Peiyao Sheng, Gerui Wang, Kartik Nayak, Sreeram Kannan, Pramod Viswanath. *“Player-Replaceability and Forensic Support are Two Sides of the Same (Crypto) Coin”*, Financial Cryptography and Data Security.
- HotNets 2022 S.V.R. Anand, Serhat Arslan, Rajat Chopra, Sachin Katti, Milind Kumar Vaddiraju, Ranvir Rana, Peiyao Sheng, Himanshu Tyagi, Pramod Viswanath (List of authors in alphabetical order.) *“Trust-free Service Measurement and Payments for Decentralized Cellular Networks”*, ACM Workshop on Hot Topics in Networks.
- CCS 2021 Peiyao Sheng, Gerui Wang, Kartik Nayak, Sreeram Kannan, Pramod Viswanath. *“BFT Protocol Forensics”*, Best Paper Award Runner-Up, ACM Conference on Computer and Communication Security.
- FC 2021 Peiyao Sheng, Bowen Xue, Sreeram Kannan, Pramod Viswanath. *“ACeD: Scalable Data Availability Oracle”*, Financial Cryptography and Data Security.

Research Experience

- July 2022 – **Blockchains Lab**, at Princeton University.
Present Visiting Researcher, advised by *Prof. Pramod Viswanath*
- Jan 2020 – **Coordinated Science Lab**, at University of Illinois at Urbana-Champaign.
Present Research Assistant, advised by *Prof. Pramod Viswanath*

- Sept 2018 – **Secure Learning Lab**, at University of Illinois at Urbana-Champaign.
 Dec 2018 Visiting Research Intern, advised by *Prof. Bo Li*
 Sep 2017 – **SpeechLab**, at Shanghai Jiao Tong University.
 Mar 2018 Undergraduate Researcher, advised by *Prof. Kai Yu* and *Prof. Yanmin Qian*

Professional Experience

Industry Experience.

- Present Co-founder and Head of Research, **Witness Chain**, US
 ○ Witness Chain is pioneering a unified economy where DePINs converge on a common platform, enabling trust-less coordination and shared value creation.
- Summer 2023 Research Intern, **Chainlink Labs**, US
 ○ Advised by *Dr. Dahlia Malkhi*, developed the concept of “ticketing”, through which atomic broadcasts are orchestrated by nodes in a distributed system. We worked on a hybrid scheme which combines managed and unmanaged ticketing regimes, striking a balance between adaptivity and resilience.
- Summer 2021 Research Intern, Kaleidoscope Blockchain, US
 ○ Worked on building a tokenized telco marketplace, called kaleidoscope. It was designed to connect network applications with network infrastructures in a decentralized manner. We’ve built a demo where consumers can book network instances from the marketplace, and the blockchain ensures the payment and service according to the service-level agreement posted on chain.
- Spring 2019 Research Intern, Urban Computing Group, **SenseTime**, China
- Teaching Assistant.
- Spring 2022 ECE598, **Principles of Blockchains**
 Fall 2019 CS107, **Data Science Discovery**
 Spring 2018 MS208, **Compilers**
 Summer 2017 MS106, Principle and Practice of Computer Algorithms
 Spring 2017 MS105, Data Structures
 Fall 2017 CS122, C++ Programming

Honors and Awards

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| 2022 | Chainlink Labs Fellowship Honorable Mention | |
| 2021 | ACM CCS Best Paper Award Runner-Up | |
| 2020 | ICPC Mid-Central USA Regional Contest | 2nd place |
| 2019 | Outstanding Graduates in Shanghai Jiao Tong University | |
| 2017 | Kai Yuan Scholarship | Top 2% |
| 2017 | Meritorious Winner in MCM/ICM | Top 10% |
| 2015, 2016 | Academic Excellence Scholarship | 1st place |
| 2016, 2017 | Zhiyuan Honorary Scholarship | |