Lei Yang

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Education

Ph.D. in Elec. Eng. and Comp. Sci.	Massachusetts Institute of Technology	June 2023 (exp.)
Advisor: Mohammad Alizadeh.		
M.S. in Elec. Eng. and Comp. Sci.	Massachusetts Institute of Technology	June 2020
B.S. in Comp. Sci.	Peking University	June 2018

Employment

Research Assistant	Massachusetts Institute of Technology	Sept. 2018 to present
Teaching Assistant	Massachusetts Institute of Technology	Sept. 2021 to Dec. 2021
Systems Research Intern	Algorand Inc.	May 2021 to Aug. 2021
Research Engineer Intern	Information and Protocols Research Inc.	Dec. 2020 to Jan. 2021
Teaching Assistant	Peking University	Sept. 2017 to June 2018
Research Assistant	Peking University	Feb. 2015 to June 2018

Teaching

Computer Networks (6.829)	Massachusetts Institute of Technology	Fall 2021
As teaching assistant. Instructors: Hari Balakrishnan, Manya Ghobadi.		
Compiler Technology	Peking University	Spring 2018
As teaching assistant. Instructor: Yun Liang.		
Computer Networks (Honor Track)	Peking University	Fall 2017
As teaching assistant. Instructor: Chenren Xu.		

Mentoring

Ioannis Kaklamanis	Massachusetts Institute of Technology	Dec. 2021 to present
Undergraduate research (UROP) and Master's thesis research.		

Service

External Reviewer	IEEE International Symposium on Information Theory (ISIT) 2023
External Reviewer	IEEE Symposium on Security and Privacy (SP) 2023
Reviewer	IEEE Transactions on Dependable and Secure Computing
Reviewer	IEEE Transactions on Communications

Referred Publications

1. Ioannis Kaklamanis, Lei Yang, Mohammad Alizadeh, "Poster: Coded Broadcast for Scalable Leader-Based BFT Consensus," ACM SIGSAC Conference on Computer and Communications Security (CCS), 2022.
2. Joachim Neu*, Srivatsan Sridhar*, Lei Yang*, David Tse, Mohammad Alizadeh, "Longest Chain Consensus Under Bandwidth Constraint," ACM Advances in Financial Technologies (AFT), 2022.
3. Lei Yang, Seo Jin Park, Mohammad Alizadeh, Sreeram Kannan, David Tse, "DispersedLedger: High-Throughput Byzantine Consensus on Variable Bandwidth Networks," USENIX Symposium on Networked Systems Design and Implementation (NSDI), 2022.
4. Xuechao Wang, Viswa Virinchi Muppirala, Lei Yang, Sreeram Kannan, Pramod Viswanath, "Securing Parallel-chain Protocols under Variable Mining Power," ACM SIGSAC Conference on Computer and Communications Security (CCS), 2021.
5. Vibhaalakshmi Sivaraman, Shaileshh Bojja Venkatakrishnan, Kathleen Ruan, Parimarjan Negi, Lei Yang, Radhika Mittal, Giulia Fanti, Mohammad Alizadeh, "High Throughput Cryptocurrency Routing in Payment

Channel Networks," USENIX Symposium on Networked Systems Design and Implementation (NSDI), 2020.

6. Colleen Josephson, Lei Yang, Pengyu Zhang, Sachin Katti, "Wireless Computer Vision Using Commodity Devices," ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN), 2019.
7. Zhenxin Fu, Lei Yang, Wenbin Hou, Zhuohan Li, Yifan Wu, Yihua Cheng, Xiaolin Wang, Yun Liang, "Student Cluster Competition 2017, Team Peking University: Reproducing vectorization of the Tersoff multi-body potential on the Intel Broadwell architecture," Parallel Computing 78 (2018): 28-32.
8. Chenren Xu, Lei Yang, Pengyu Zhang, "Practical Backscatter Communication Systems for Battery-Free Internet of Things: A Tutorial and Survey of Recent Research," IEEE Signal Processing Magazine 35.5 (2018): 16-27.
9. Lei Yang, Yilong Li, Zhenxin Fu, Zhuohan Li, Wenbin Hou, Haoze Wu, Xiaolin Wang, Yun Liang, "ParConnect reproducibility report," Parallel Computing 70 (2017): 22-26.

Talks

1. (Guest Lecture) "High-Throughput Byzantine Consensus on Variable Bandwidth Networks," Massachusetts Institute of Technology, Nov. 2022.
2. (Guest Lecture) "High-Throughput Byzantine Consensus on Variable Bandwidth Networks," Princeton University, Oct. 2022.
3. "Data Availability Sampling Design Constraints," KademliaCon, Aug. 2022.
4. "Prism: Scaling Bitcoin by 10,000x," Peking University, June 2020.
5. "Prism: Scaling Bitcoin by 10,000x," Stanford Blockchain Conference, Feb. 2020.

Preprints

1. Lei Yang, Yossi Gilad, Mohammad Alizadeh, "Coded Transaction Broadcasting for High-throughput Blockchains," 2022.
2. Ertem Nusret Tas*, Dionysis Zindros*, Lei Yang*, David Tse, "Light Clients for Lazy Blockchains," 2022.
3. Lei Yang, Xuechao Wang, Vivek Bagaria, Gerui Wang, Mohammad Alizadeh, David Tse, Giulia Fanti, Pramod Viswanath, "Prism: Scaling Bitcoin by 10,000x," 2020.

Selected Grants and Awards

Academic Grants Round Grantee	Ethereum Foundation	2022
Coded Transaction Broadcasting for High-throughput Blockchains.		
4th place	Student Cluster Competition	2017
As team leader. Part of the International Conference for High Performance Computing, Networking, Storage, and Analysis (SC).		
May Fourth Scholarship	Peking University	2017
Freshman Scholarship	Peking University	2014
Second prize	Chinese Physics Olympiad Finals	2013