

Lei Yang

32-G918
77 Massachusetts Avenue
Cambridge, MA 02139

Education

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| Ph.D. in Elec. Eng. and Comp. Sci. <i>Advisor: Mohammad Alizadeh.</i> | Massachusetts Institute of Technology | June 2024 (exp.) |
| M.S. in Elec. Eng. and Comp. Sci. | Massachusetts Institute of Technology | June 2020 |
| B.S. in Comp. Sci. | Peking University | June 2018 |

Employment

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| 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

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

Mentoring

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| Ioannis Kakkamanis <i>Master's thesis and undergraduate research (UROP). Next hop: PhD student at Yale.</i> | Massachusetts Institute of Technology | Dec. 2021 to June 2023 |
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Service

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| External Reviewer | The Science of Blockchain Conference (SBC) 2023 |
| External Reviewer | ConsensusDays 23 |
| 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 |

Refereed Publications

1. Ioannis Kakkamanis, 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. Joachim Neu*, Srivatsan Sridhar*, Lei Yang*, David Tse, "Optimal Flexible Consensus and its Application to Ethereum," 2023.
2. Lei Yang, Yossi Gilad, Mohammad Alizadeh, "Coded Transaction Broadcasting for High-throughput Blockchains," 2022.
3. Ertem Nusret Tas*, Dionysis Zindros*, Lei Yang*, David Tse, "Light Clients for Lazy Blockchains," 2022.
4. 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

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