



Xiaoyi Shi

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Education

2024 – 2029 (expected)	Institute of Network Science and Cyberspace, Tsinghua University	Ph.D.
2020 – 2024	Department of Automation, Tsinghua University	B.S.

Publications and Manuscripts

- **ElasticChain: Programmable Switch-Driven Hotspot Mitigation for One-Sided RDMA Key-Value Stores**
NSDI 2027 · CCF-A · Submitted | Xiaoyi Shi, Jiasheng Zhou, Lin He, Yifan Yang, Jinlong E, Guanyu Li, Ying Liu
- **Asynchrony-Resilient Collective Communication for Distributed Deep Learning**
NSDI 2027 · CCF-A · Accepted, to appear | Yifan Yang, Jiamin Cao, Jiaqi Gao, Shangfeng Shi, Xiaoyi Shi, Jiasheng Zhou, Lin He, Ying Liu, Dennis Cai, Ennan Zhai
- **HybridCache: A General-Purpose Hybrid Key-Value Caching Architecture in Programmable Switches**
ICNP 2026 · CCF-B · Accepted, to appear | Jiasheng Zhou, Xiaoyi Shi, Yifan Yang, Ying Liu, Lin He, Rongbang Wu, Jinlong E
- **Miresga: Achieving High-Performance and Reliable Layer-7 Load Balancing with Programmable Switches**
IEEE Transactions on Computers 2026 · CCF-A | Xiaoyi Shi, Ying Liu, Lin He, Yifan Yang, Jiasheng Zhou, Rongbang Wu, Jinlong E
- **SwitchTAD: Defending Deep Learning-Based Website Fingerprinting Attacks with Programmable Switches**
Computer Networks 2026 · CCF-B | Jiasheng Zhou, Lin He, Xiaoyi Shi, Yifan Yang, Jinlong E, Ying Liu
- **Lightning in the Dark: Uncovering Global IPv6 Router Interfaces and Their Security Implications**
ICNP 2025 · CCF-B | Jiasheng Zhou, Yingliu Liu, Lin He, Xiaoyi Shi, Yifan Yang, Chentian Wei, Daguo Cheng, Wenwen Gong, Jiahai Yang
- **SubRecon: Efficient Internet-wide IPv6 Subnet Discovery and Its Applications**
ICNP 2025 · CCF-B | Jiasheng Zhou, Ying Liu, Lin He, Yifan Yang, Xiaoyi Shi, Daguo Cheng, Chentian Wei, Yun Fan, Guanglei Song
- **TGW: Operating an Efficient and Resilient Cloud Gateway at Scale**
USENIX ATC 2025 · CCF-A | Yifan Yang, Lin He, Jiasheng Zhou, Xiaoyi Shi, Yichi Xu, Shicheng Wang, Jinlong E, Ying Liu, Junwei Zhang, Zhuang Yuan, Hengyang Xu
- **6Map: Enabling Fast Active IPv6 Address Discovery with Programmable Switches**
INFOCOM 2025 · CCF-A | Jiasheng Zhou, Lin He, Yifan Yang, Xiaoyi Shi, Daguo Cheng, Jinlong E, Ying Liu, Dong Zhang
- **Miresga: Accelerating Layer-7 Load Balancing with Programmable Switches**
WWW 2025 · CCF-A | Xiaoyi Shi, Lin He, Jiasheng Zhou, Yifan Yang, Ying Liu
- **P4runpro: Enabling Runtime Programmability for RMT Programmable Switches**
SIGCOMM 2024 · CCF-A | Yifan Yang, Lin He, Jiasheng Zhou, Xiaoyi Shi, Jiamin Cao, Ying Liu
- **L7LB: High Performance Layer-7 Load Balancing on Heterogeneous Programmable Platforms**
INFOCOM Workshops 2023 · Poster/Demo | Xiaoyi Shi, Yifan Li, Chengjun Jia, Xiaohe Hu, Jun Li

Campus Service

- Member, Student Association for Science and Technology, Department of Automation, Tsinghua University Jul 2021 – Jul 2022
- Secretary, Communist Youth League Branch, Class Zi 01, Department of Automation, Tsinghua University Sep 2021 – Sep 2022

Honors and Awards

- Second-Class University Scholarship, Tsinghua University Jan 2026
- First Prize, Finals of the 3rd IPv6 Technology Application Innovation Competition Dec 2025 · Beijing, China
- Second Prize, NVIDIA Track, 1st CCF AI-Computing Network Challenge Sep 2025 · Shenyang, Liaoning, China
- Comprehensive Scholarship (Outstanding Student Service), Tsinghua University Jan 2023