

Jiasheng Zhou

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Educational Experience

- **Fuzhou University** - Computer Science and Technology Sep. 2020 – Jun. 2024
- **Tsinghua University** - Cyberspace Security Sep. 2024 – Present

Publications

Research interests: **Programmable Networks, Network Measurement.**

1. Lightning in the Dark: Uncovering Global IPv6 Router Interfaces and Their Security Implications (ICNP 2025)

Jiasheng Zhou, Ying Liu, Lin He, Xiaoyi Shi, Yifan Yang, Chentian Wei, Daguo Cheng, Wenwen Gong, Jiahai Yang

- We propose Helixir, a feedback-based, high hit-rate, and efficient IPv6 router interface discovery system.

2. SubRecon: Efficient Internet-wide IPv6 Subnet Discovery and Its Applications (ICNP 2025)

Jiasheng Zhou, Ying Liu, Lin He, Yifan Yang, Xiaoyi Shi, Daguo Cheng, Chentian Wei, Yun Fan, Guanglei Song

- We propose SubRecon, an efficient and hierarchical Internet-wide IPv6 subnet discovery system.

3. 6Map: Enabling Fast Active IPv6 Address Discovery with Programmable Switches (INFOCOM 2025)

Jiasheng Zhou, Lin He, Yifan Yang, Xiaoyi Shi, Daguo Cheng, Jinlong E, Ying Liu, and Dong Zhang

- We propose 6Map, a fast active IPv6 address discovery system based on programmable switches.

4. N4: Network for N Neural Network Training (ICC 2024)

Jiasheng Zhou, Shengrui Lin, Hongyan Liu, Xinyang Chen, Pengpai Shi, Longlong Zhu, and Dong Zhang

- We propose N4, a training acceleration framework for multiple neural networks based on programmable switches.

5. P4runpro: Enabling Runtime Programmability for RMT Programmable Switches (SIGCOMM 2024)

Yifan Yang, Lin He, Jiasheng Zhou, Xiaoyi Shi, Jiamin Cao, and Ying Liu

- We present P4runpro, enabling runtime data plane updates with dynamic resource allocation.

6. Miresga: Accelerating Layer-7 Load Balancing with Programmable Switches (WWW 2025)

Xiaoyi Shi, Lin He, Jiasheng Zhou, Yifan Yang, and Ying Liu

- We introduce Miresga, a hybrid layer-7 load balancing system by co-designing hardware and software.

7. TGW: Operating an Efficient and Resilient Cloud Gateway at Scale (ATC 2025)

Yifan Yang, Lin He, Jiasheng Zhou, Xiaoyi Shi, Yichi Xu, Shicheng Wang, Jinlong E, Ying Liu, Junwei Zhang, Zhuang Yuan, Hengyang Xu

- We design, deploy, and operate Tencent Gateway (TGW), an efficient and resilient cloud gateway at scale.

8. Gungnir: Autoregressive Model for Unified Generation of IPv6 Fully Responsive Prefixes (ICNP 2025)

Chentian Wei, Ying Liu, Lin He, Daguo Cheng, Jiasheng Zhou

- We propose Gungnir, a multi-protocol unified FRP probing framework based on autoregressive semantic modeling.

Awards

- The First Prize of the 2nd China IPv6 Technology Application Innovation Competition Final
- The Grand Prize of the 7th China Next Generation Internet Technology Innovation Competition
- The Second Prize of the 2023 China Collegiate Computing Contest: Network Technology Challenge
- The Third Prize of the 2023 China Future Network Technology Innovation Contest
- The Finalist Award in the 2023 Mathematical Contest in Modeling (MCM)
- China National Scholarship for the academic year 2022–2023
- China National Scholarship for the academic year 2021–2022

Skills

- Proficient in **network programming**, with an in-depth understanding of the SDN (Software-Defined Networking) architecture, and proficient in the data plane programmability language P4.
- Experienced in **network measurement**, with a solid understanding of active and passive measurement techniques, and familiar with large-scale Internet scanning, traffic analysis, and topology inference.