Shihan Lin

Postdoctoral Research Fellow at University of Michigan; Ph.D. at Duke University

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Research Interests

My research interests include **networked systems, network security, Internet routing, and Internet measurements**. My recent research focuses on developing systems for **secure and efficient resource delivery in wide area networks** through the co-design of the system architecture and algorithms. My research has been published on prestigious conferences, including **SIGCOMM, NSDI, CCS, SIGMETRICS, IMC,** etc.

Education

Duke University, Durham, NC, USA **Aug. 2019 – May 2025**

Ph.D. in Computer Science, Networks and Distributed Systems Lab

- Advisor: **Prof. Xiaowei Yang**
- Dissertation: *Securing Web Content Distribution in the Presence of Third-Party Content Delivery Networks*

Fudan University, Shanghai, China **Sep. 2015 – Jun. 2019**

Undergraduate in Computer Science, Honor Class, Denghui Scholar

- Advisor: **Prof. Yang Chen** and **Prof. Xin Wang**
- Bachelor Thesis: *Comparing HTTP/2 and QUIC Through Network Measurement*

Research and Work Experience

University of Michigan, Ann Arbor, MI, USA **Aug. 2025 – Aug. 2026 (expected)**

Postdoctoral Research Fellow, Advisor: *Prof. Ang Chen*

Google, Sunnyvale, CA, USA **May 2023 – Aug. 2023**

PhD Software Engineering Intern, Host: *Austin Barket and David Zimmermann*

Google, Durham, NC, USA **May 2022 – Aug. 2022**

PhD Software Engineering Intern, Host: *Sergey Sorokin and Sanjay Khanna*

Publications

(* For Equal Contribution, # For Corresponding Author)

[1] XFir: Accelerating New-Flow Setup on Host Servers of a Large Cloud Network

- ***Shihan Lin****, Shunqiao Jiang*, Liang Wang, Jian Wang, Chao Pei, Jian Zhao, Wenjun Wu, Kai Ren, Lijun Zhuang, etc.*
- To appear on **SIGCOMM 2026** (CCF-A).

[2] PreAcher: Secure and Practical Password Pre-Authentication by Content Delivery Networks

- ***Shihan Lin****, Suting Chen, Yunming Xiao, Yanqi Gu, Aleksandar Kuzmanovic, Xiaowei Yang*.
- In **NSDI 2025** (CCF-A, 21 pages, Acceptance rate: 55/401=13.7%).

[3] Tiered Cloud Routing: Methodology, Latency, and Improvement

- ***Shihan Lin****, Yi Zhou, Xiao Zhang, Todd Arnold, Ramesh Govindan, Xiaowei Yang*.
- In **SIGMETRICS 2025** (CCF-B, 41 pages, Acceptance rate: 15/113=13.2%).

[4] InviCloak: An End-to-End Approach to Privacy and Performance in Web Content Distribution

- ***Shihan Lin****, Rui Xin, Aayush Goel, Xiaowei Yang*.
- In **CCS 2022** (CCF-A, 15 pages, Acceptance rate: 58/324=17.9%).

[5] Cost-effective and Reliable Global Internet Peering with Programmable Switches

- *Congcong Miao, Zhiyi Yao, Jianchao Lv, Jinglin Wang,* ***Shihan Lin****, Xinyi Zhang, Yunming Xiao, etc.*
- Proceedings of **NSDI 2026** (CCF-A, 15 pages, Acceptance rate: 100/452=22.1%).

[6] Remote Procedure Call as a Managed System Service

- *Jingrong Chen*, Yongji Wu*,* **Shihan Lin****, Yechen Xu, Xinhao Kong, Thomas Anderson, Matthew Lentz,etc.*
- In **NSDI 2023** (CCF-A, 20 pages, Acceptance rate: 46/288=16.0%).

[7] Dissecting the Applicability of HTTP/3 in Content Delivery Networks
- *Mengying Zhou, Yang Chen, **Shihan Lin**, Xin Wang, Bingyang Liu, Aaron Ding*.
- In **ICDCS 2024** (CCF-B, 11 pages, Acceptance rate: 121/552=21.9%).

[8] Browsing without Third-Party Cookies: What Do You See?
- *Maxwell Lin, **Shihan Lin**, Helen Wu, Karen Wang, Xiaowei Yang*.
- In **IMC 2024** (CCF-B, 9 pages, short paper, Acceptance rate: 55/253=22.1%).
- Won **Computing Research Association Outstanding Undergraduate Research Award Honorable Mentions** in 2025.

[9] Characterizing Anycast Flipping: Prevalence and Impact
- *Xiao Zhang, **Shihan Lin**, Tingshan Huang, Bruce Maggs, Kyle Schomp, Xiaowei Yang*.
- In **PAM 2025** (CCF-C, 26 pages).

[10] Quantifying User Password Exposure to Third-Party CDNs
- *Rui Xin, **Shihan Lin**#, Xiaowei Yang*.
- In **PAM 2023** (CCF-C, 17 pages, short paper).

Grant Proposals

- Lead the proposal writing and the development of the grant from Google Cloud Research Credits Program.
- Involved in the proposal writing and the development of NSF grant CNS-2225448: "Optimizing IP Anycast Performance at Scale" ($ 625k, PI: Xiaowei Yang, Co-PI: Bruce Maggs).
- Involved in the grant proposal writing of "CloudScope: Enabling Longitudinal Studies of Wide-Area Cloud Networking" (Under submission to NSF).

Teaching and Mentoring Experience

Instructor, COMPSCI 514: Advanced Computer Networks	Fall 2024
Teaching Assistant, COMPSCI 512: Distributed Systems	Spring 2022
Teaching Assistant, COMPSCI 590: Cloud-Based Security	Fall 2021
Teaching Assistant, COMPSCI 356: Computer Networks Architecture	Spring 2021
Teaching Assistant, COMPSCI 514: Advanced Computer Networks	Fall 2020
Mentor, Duke CS+ Undergraduate Research Program	2020 – 2024

- Two of the mentored undergraduates published their first-author papers on **PAM 2023** and **IMC 2024**, respectively.

Honors and Awards

Duke University *Outstanding PhD Dissertation Award* in Computer Science	2025
Travel Grant from NSDI'26, NSDI'25, ICDCS'24, SIGCOMM'23	
Denghui Scholar of Fudan Undergraduate Research Opportunities Program	2020
National Innovation and Entrepreneurship Training Program for College Students	2019
First Prize of Fudan Collegiate Programming Contest	2017
First Prize of National Olympiad in Informatics in Provinces	2014

Services

Grant Reviewer in NSF CISE Program Panelist (2026).
Program Committee for SIGCOMM (2026), CCS (2026), WWW (2026), CoNEXT (2026).
Reviewer for TIFS (2025), IoT Journal (2025), Computer Networks (2025), Network Magazine (2021).