

Sen Lin

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Summary — Ph.D. in Computer Science, Northwestern University. Built deployable, low-latency networking systems for the public Internet at scale leveraging cross-layer optimization across the networking stack. Experienced in kernel networking, user-space datapaths, and programmable network hardware. Publications include ICNP, TOCS, EuroSys, SoCC, and MobiCom.

Skills

Languages Rust, C/C++, Go, Python, P4, Ruby, Java
Systems Linux/Unix, Android
Infrastructure Docker, Kubernetes, OpenFaaS, AWS/Azure

Networking QUIC, Kernel Networking, eBPF, DPDK, Tofino
Multimedia Video Codecs, HLS/MPEG-DASH, WebRTC
Dev Tools PyTorch, SQL/NoSQL, Web Full-Stack, DevOps

Education

Northwestern University, Evanston, IL Sep 2020 – Dec 2025
Ph.D. in Computer Science, GPA: 3.96/4.0
Thesis: Cross-Layer Network Optimization Targeting Endusers

University at Buffalo, Buffalo, NY Aug 2018 – Jun 2020
M.Sc. in Computer Science & Engineering, GPA: 3.89/4.0

Yunnan University, Kunming, China Sep 2014 – Jun 2018
B.Eng. in Software Engineering, GPA: 3.4/4.0

Experience

Dolby Laboratories May 2024 – Aug 2024
PhD Research Intern

- Led an independent real-time video streaming project combining video coding and network coding

Northwestern University Sep 2020 – Dec 2025
Graduate Research Assistant

Virtual Multipath Transport

- **Architected** a virtual MPTCP system bridging multipath transport and resilient VPN protocol design; mentored graduate researchers on kernel-space implementation (eBPF, tc, XDP)

Leveraging Cross-Directional Dependency in Realtime Interactive Streaming [C1, Code (RISE), Code (QUIC)]

- **Spearheaded** the extension of QUIC multiplexing and priority control to fit emerging streaming demands; directed a team of students to develop open-source library and framework (Rust, quinn, WebRTC, VR, SIMD)
- Achieved up to 9.4x reduction in motion-to-photon latency and 82x reduction in freeze frame rates

Optimizing Traffic in Public-Facing Data Centers Amid Internet Protocols [C2, P1, Code]

- **Led** the design of client-transparent signaling for DCN traffic control; coordinated cross-institutional development of SRPT flow scheduling and load balancing on high-speed network (P4, DPDK, Kernel)
- Achieved up to 20x FCT reduction from end-to-end testbed with DCN workloads

Streaming Analytics at the Network Edge [C3, J1]

- **Co-designed** an edge-assisted streaming analytics system by re-architecting data flows with semantic cookies
- Demonstrated up to 200x performance gain in privacy-enhanced user analytics (**EuroSys'24 Best Student Paper**)

Accelerating and Securing Serverless Cloud Networks with QUIC [C4, P2, Code]

- **Collaborated** on QUIC-based serverless networking with SRI and cross-lab teams (OpenFaaS, K8s, quic-go)
- Achieved 8–40% latency reductions across single and chained serverless functions in real-world applications

Graduate Teaching Assistant

- **Team Management & Operations:** Head TA for CS 340 (*Upper-level Networking*) for 4 years. Managed a team of 6–8 TAs per session; total 400+ students. Honored with the *Peter and Adrienne Barris Outstanding TA Award*
- **Project Mentorship & Research:** Project Mentor for CS 497 (*Graduate-level Advanced Networking Systems*). total 10+ students, including 4 long-term mentees; co-authored peer-reviewed publications

University at Buffalo Aug 2018 – Jun 2020
Graduate Student

3D Human Pose Construction Using WiFi [C5, Demo video]

- **Developed** an RNN model to construct 3D human postures from WiFi signals, achieving a 35% improvement in accuracy

Yunnan University Open Source Association

Sep 2017 – Oct 2019

Co-founder & Core member

- **Led** CI/CD and PaaS services and hosted technical workshops at @YNUOSA, a leading local open-source organization

Yunnan University

2017

Software Engineer (Work-Study)

- **Developed** the next-generation information systems for Yunnan University (~40K users) jointly with industrial partners

Chinese Academy of Science, Institute of Software

2016

Research Intern

- **Conducted** research on computer vision and machine learning applications

Publications

Conference Papers

- C1 *Leveraging Cross-Directional Dependency in Realtime Interactive Streaming*
ACM Multimedia Asia 2025 (MMAsia'25)
- C2 *Optimizing Traffic in Public-Facing Data Centers Amid Internet Protocols*
IEEE International Conference on Network Protocols 2024 (ICNP'24)
- C3 *Snatch: Online Streaming Analytics at the Network Edge*
European Conference on Computer Systems 2024 (EuroSys'24)
- C4 *QFaaS: Accelerating and Securing Serverless Cloud Networks with QUIC*
ACM Symposium on Cloud Computing 2022 (SoCC'22)
- C5 *Towards 3D Human Pose Construction Using WiFi*
ACM International Conference on Mobile Computing and Networking, 2020 (MobiCom'20)

Journal Papers

- J1 *Enabling Anonymous Online Streaming Analytics at the Network Edge*
ACM Transactions on Computer Systems, Volume 43, Issue 4, 2025. (TOCS)

Posters

- P1 *Optimizing Traffic in Public-Facing Data Centers Amid Internet Protocols*
USENIX Symposium on Networked Systems Design and Implementation, 2024 (NSDI'24)
- P2 *Accelerating and Securing Serverless Cloud Networks with QUIC*
ACM International Conference on Emerging Networking EXperiments and Technologies, 2021 (CoNEXT'21)

Honors & Awards

- **Selected Fellow** Dec 2025
Disability:IN NextGen Leaders Program
- **Student Travel Grant** Oct 2025
ACM SIGMM
- **Elected Attendee** Apr 2025
CRA-WP Grad Cohort for IDEALS
- **Student Travel Grant** Sep 2024
IEEE International Conference on Network Protocols (ICNP'24)
- **Best Student Paper Award** Apr 2024
European Conference on Computer Systems (EuroSys'24)
- **Conference Travel Grants** 2021 – 2025
Northwestern University
- **Peter and Adrienne Barris Outstanding Teaching Assistant Award** May 2023
Northwestern University

Service

- **Student Workshop Mentor:** CoNEXT ('25)
- **Artifact Evaluation Committee:** NSDI ('26)
- **Reviewer/Sub-reviewer:** WWW ('21, '22, '23, '26); ICDCS ('22)