

SHAWN SHUOSHUO CHEN

PhD student · Carnegie Mellon University

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RESEARCH INTERESTS

Computer Networks, Optical Networks, Operating Systems, Machine Learning Systems

EDUCATION

Carnegie Mellon University

Ph.D. in Computer Science

Advisors: Prof. Srinivasan Seshan and Prof. Peter Steenkiste

Aug. 2021 – May 2026 (expected)

Pittsburgh, PA

University of Virginia

M.S. in Computer Engineering

Advisor: Prof. Malathi Veeraraghavan

Aug. 2014 – May 2016

Charlottesville, VA

Wuhan University

B.S. in Electrical Engineering

Sep. 2010 – Jun. 2014

Wuhan, China

EXPERIENCE

Microsoft Azure

Research Intern

Redmond, WA

May 2024 – Aug. 2024

Microsoft Research

Research Intern

Redmond, WA

May 2022 – Aug. 2022

Google

Technical Lead / Senior Software Engineer

Sunnyvale, CA

Oct. 2016 - Apr. 2021

AMD Xilinx

Research Intern

Shanghai, China

Nov. 2013 – Aug. 2014

MeshSr Co.

Software Engineer Intern

Nanjing, China

Jul. 2013 – Sep. 2013

AWARDS

Argonne Leadership Computing Facility Director's Discretionary award

2025

Google Cloud Research Credits

2025

Lambda Research Grant

2025

CMU Provost / Graduate Student Assembly funding award

2025

NYU Henry M. MacCracken Fellowship (declined)

2020

Silver Perfy Award, *Google*

2019

Academic Excellence Award Nomination, *University of Virginia*

2016

OpenHW Vivado HLS Contest Runner-up, *AMD Xilinx*

2014

Outstanding Undergraduate Milestone Project, *Wuhan University*

2014

- [1] **Shawn Shuoshuo Chen**, Daiyaan Arfeen, Minlan Yu, Peter Steenkiste, Srinivasan Seshan. [Toward Co-adapting Machine Learning Job Shape and Cluster Topology](#). arXiv:2510.03891. October 2024.
- [2] Brian Chang, Keqiang He, **Shawn Shuoshuo Chen**, Jiaxin Lin, Mingyang Zhang, Wenfei Wu, Aditya Akella. [Balancing SDN Control Plane Availability and Traffic Engineering Efficiency in Data Centers](#). In Proceedings of the 32nd IEEE International Conference on Network Protocols (ICNP '24). Charleroi, Belgium. October 2024.
- [3] **Shawn Shuoshuo Chen**, Keqiang He, Rui Wang, Srinivasan Seshan, Peter Steenkiste. [Precise Data Center Traffic Engineering with Constrained Hardware Resources](#). In Proceedings of the 21st USENIX Symposium on Networked Systems Design and Implementation (NSDI '24). Santa Clara, CA. April 2024.
- [4] **Shawn Shuoshuo Chen**, Weiyang Wang, Manya Ghobadi, Srinivasan Seshan, Peter Steenkiste. [Zero Buffer Optical Packet Switching Data Center Network](#). In *poster session* of the 21st USENIX Symposium on Networked Systems Design and Implementation (NSDI '24 poster). Santa Clara, CA. April 2024.
- [5] **Shawn Shuoshuo Chen**, Weiyang Wang, Christopher Canel, Srinivasan Seshan, Alex C. Snoeren, Peter Steenkiste. [Time-division TCP for reconfigurable data center networks](#). In Proceedings of the ACM SIGCOMM 2022 Conference (SIGCOMM '22). Amsterdam, Netherlands. August 2022.
- [6] Andrew D. Ferguson, Steve Gribble, Chi-Yao Hong, Charles Killian, Waqar Mohsin, Henrik Muehe, Joon Ong, Leon Poutievski, Arjun Singh, Lorenzo Vicisano, Richard Alimi, **Shawn Shuoshuo Chen**, Mike Conley, Subhasree Mandal, Karthik Nagaraj, Kondapa Naidu Bollineni, Amr Sabaa, Shidong Zhang, Min Zhu, Amin Vahdat. [Orion: Google's Software-Defined Networking Control Plane](#). In Proceedings of the 18th USENIX Symposium on Networked Systems Design and Implementation (NSDI '21). Santa Clara, CA. April 2021.
- [7] Yuanlong Tan, **Shuoshuo Chen**, Steve Emmerson, Yizhe Zhang, Malathi Veeraraghavan. [Advances in Reliable File-Stream Multicasting over Multi-Domain Software Defined Networks \(SDN\)](#). In Proceedings of the 28th International Conference on Computer Communication and Networks (ICCCN). Valencia, Spain. July 2019.
- [8] **Shuoshuo Chen**, Xiang Ji, Malathi Veeraraghavan, Steve Emmerson, Joseph Sleazak, Steven G. Decker. [A cross-layer Multicast-Push Unicast-Pull \(MPUP\) architecture for reliable file-stream distribution](#). In Proceedings of the IEEE 40th Annual Computer Software and Applications Conference (COMPSAC). Atlanta, GA. June 2016.

TEACHING

CS 15-441/641 Networking and the Internet, CMU: fall 2021, fall 2024

CS/ECE 4457 Computer Networks, UVA: fall 2014, fall 2015

SERVICE

Program Committee

- Journal of Optical Switching and Networking 2025
- IEEE/ACM Transactions on Networking 2024
- IEEE GLOBECOM 2024

Artifact Evaluation Committee

- ACM SIGCOMM 2024
- ACM CoNEXT 2024
- ACM SIGCOMM 2023
- ACM CoNEXT 2023
- USENIX OSDI/ATC 2022

TALKS AND PRESENTATIONS

Toward Co-adapting Machine Learning Job Shape and Cluster Topology

- Google Networking Research Summit (Oct. 2025)

Reshaping Transport and Traffic Engineering in Reconfigurable Data Center Networks

- Workshop on Reconfigurable Networks, Cornell. (Jun. 2025)

Zero Buffer Optical Packet Switching Data Center Network

- NSDI'24, Santa Clara, CA. (Apr. 2024)

Optical Network Infrastructure Support for Machine Learning

- Google Networking Research Summit (Oct. 2023)

Precise Data Center Traffic Engineering with Constrained Hardware Resources

- Google systems talks seminar. (Apr. 2024)
- NSDI'24, Santa Clara, CA. (Apr. 2024)
- Harvard. (May. 2024)
- Microsoft Azure SPARC team. (May. 2024)

Time-division TCP for reconfigurable data center networks

- MIT. (Aug. 2022)
- ACM SIGCOMM'22, Amsterdam, Netherlands. (Aug. 2022)
- Google S2Infra team. (Sep. 2022)

Advances in Reliable File-Stream Multicasting over Multi-Domain Software Defined Networks

- IEEE ICCCN, Valencia, Spain. (Jul. 2019)

Network Infrastructure at Google

- University of Virginia. (Mar. 2019)

Optimizing SDN Routing Convergence at Scale

- Google Networking Research Summit (Aug. 2018)