Chengyuan Huang

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EDUCATION

Ph.D.   Communication Engineering, Beijing University of Posts and Telecommunications (supervised by Prof. Jiao Zhang and Yunjie Liu), China, 2015-2021

B.E.   Electronic Engineering, Beijing University of Posts and Telecommunications, China, 2011-2015

EXPERIENCES

2023–   Assistant Researcher, Nanjing University

2021–2023   Postdoctoral Fellow, Purple Mountain Laboratories

RESEARCH AREAS

Data Center Networks

Networked System

Machine Learning System

PUBLICATIONS

Journal Articles

2026   **Chengyuan Huang**, Zhengqi Cui, Jun Xu, Zhaochen Zhang, Li Wang, Peirui Cao, Zhongming Ji, Jilei Chen, Dongxu Wang, Shengju Zhang, Lingkun Meng, Ahmed M. Abdelmoniem, Fu Xiao, Wanchun Dou, Guihai Chen, Keqiang He, and Chen Tian. UDMP: Unified Delay-Driven Multipath Protocol for AI Clusters. IEEE Transactions on Networking, 2026

2025   **Chengyuan Huang**, Yibo Xiao, Tianfan Zhang, Chao Yang, Dong Zhang, Bingheng Yan, Ahmed M. Abdelmoniem, Gianni Antichi, Xiaoliang Wang, Fu Xiao, Wanchun Dou, Guihai Chen, Hao Yin, and Chen Tian. Troubleshooting Programmable Data Planes via Real-Time Table Information Recording. IEEE Transactions on Networking, Vol. 33, No. 4, 2025

2025   Mingyao Wang, Keqiang He, Peirui Cao, Jiong Duan, Dongliang Lv, Zehao Yu, Yanqing Chen, **Chengyuan Huang**, Wanchun Dou, Guihai Chen, and Chen Tian. Reunion: Receiver-driven network load balancing mechanism in AI training clusters. Computer Networks, Vol. 259, 2025

2024   **Chengyuan Huang**, Feiyang Xue, Peiwen Yu, Xiaoliang Wang, Yanqing Chen, Tao Wu, Lei Han, Zifa Han, Bingquan Wang, Xiangyu Gong, Chen Tian, Wanchun Dou, Guihai Chen, and Hao Yin. Minimizing Buffer Utilization for Lossless Inter-DC Links. IEEE/ACM Transactions on Networking, Vol. 32, No. 6, 2024

2024   **Chengyuan Huang**, Tianfan Zhang, Li Wang, Yibo Xiao, Chao Yang, Chen Tian, Xiaoliang Wang, Dong Zhang, Bingheng Yan, Ahmed M. Abdelmoniem, Wanchun Dou, and Guihai Chen. MpScope: Enabling multi-pipeline monitoring inside a switch. Computer Networks, Vol. 254, 2024

2023   **Chengyuan Huang**, Jiao Zhang, and Tao Huang. SLIT: Achieving Fast Bandwidth Isolation Across Virtual Machines. IEEE Transactions on Network and Service Management, Vol. 20, No. 3, 2023

Conference Proceedings

2025   Qingkai Meng, Hao Zheng, Zhenhui Zhang, ChonLam Lao, **Chengyuan Huang**, Baojia Li, Ziyuan Zhu, Hao Lu, Weizhen Dang, Zitong Lin, Weifeng Zhang, Lingfeng Liu, Yuanyuan Gong, Chunzhi He, Xiaoyuan Hu, Yinben Xia, Xiang Li, Zekun He, Yachen Wang, Xianneng Zou, Kun Yang, Gianni Antichi, Guihai Chen, and Chen Tian. Astral: A Datacenter Infrastructure for Large Language Model Training at Scale. In Proceedings of ACM SIGCOMM, 2025

2025   Peirui Cao, Rui Ning, Hongwei Yang, Zhaochen Zhang, Chang Liu, Rui Li, Yongqi Yang, Yunzhuo Liu, **Chengyuan Huang**, Tao Sun, Xiaodong Duan, Guihai Chen, and Chen Tian. PortFC: Designing High-performance Deadlock-free BCube Networks. In Proceedings of ACM ICS, 2025

2024   Hao Zheng, **Chengyuan Huang**, Xiangyu Han, Jiaqi Zheng, Xiaoliang Wang, Chen Tian, Wanchun Dou, and Guihai Chen. μMon: Empowering Microsecond-level Network Monitoring with Wavelets. In Proceedings of ACM SIGCOMM, 2024

2023   **Chengyuan Huang**, Yixiao Gao, Wei Chen, Duoxing Li, Yibo Xiao, Ruyi Zhang, Chen Tian, Xiaoliang Wang, Wanchun Dou, Guihai Chen, Yi Wang, and Fu Xiao. MC-RDMA: Improving Replication Performance of RDMA-based Distributed Systems with Reliable Multicast Support. In Proceedings of IEEE ICNP, 2023

TEACHING

2023-   Computer Network at Nanjing University