Xinchen Wan

✉ *xinchen.wan@connect.ust.hk*
🌐 *xcwanandy.github.io*
📱 *+852 5612 7264*
🎓 *W7L-UwIAAAAJ*
⑂ *xcwanandy*

Education

2018.9 - 2025.2	**Hong Kong University of Science and Technology**, *Ph.D.*, Computer Science & Engineering ○ Advisor: Prof. Kai Chen
2014.9 - 2018.6	**Huazhong University of Science and Technology**, *BEng.*, Computer Science & Technology ○ Advisor: Prof. Song Wu

Research Interests

- ○ Machine Learning Systems
- ○ Hardware Acceleration
- ○ Datacenter Networking

Publications

Conference Proceedings

[1] Luyang Li, Heng Pan, **Xinchen Wan**, Kai Lv, Zilong Wang, Qian Zhao, Feng Ning, Qingsong Ning, Shideng Zhang, Zhenyu Li, Layong Luo, and Gaogang Xie. Harmonia: a unified framework for heterogeneous fpga acceleration in the cloud. In *Proc. ACM ASPLOS*, 2025.

[2] Xudong Liao, Han Tian, **Xinchen Wan**, Chaoliang Zeng, Hao Wang, Junxue Zhang, Mengyu Ma, Guyue Liu, and Kai Chen. Towards optimal rack-scale s-level cpu scheduling through in-network workload shaping. In *Proceedings of USENIX Annual Technical Conference*, ATC 2025, 2025.

[3] Han Tian, Xudong Liao, Decang Sun, Chaoliang Zeng, Yilun Jin, Junxue Zhang, **Xinchen Wan**, Zilong Wang, Yong Wang, and Kai Chen. Achieving fairness generalizability for learning-based congestion control with jury. In *Proc. ACM EuroSys*, 2025.

[4] **Xinchen Wan**, Luyang Li, Han Tian, Xudong Liao, Xinyang Huang, Chaoliang Zeng, Zilong Wang, Xinyu Yang, Ke Cheng, Qingsong Ning, Guyue Liu, Layong Luo, and Kai Chen. A generic and efficient communication framework for message-level in-network computing. In *Proc. IEEE INFOCOM*, 2025.

[5] Kaiqiang Xu, Decang Sun, Hao Wang, Zhenghang Ren, **Xinchen Wan**, Xudong Liao, Zilong Wang, Junxue Zhang, and Kai Chen. Design and operation of shared machine learning clusters on campus. In *Proc. ACM ASPLOS*, 2025.

[6] Xudong Liao, Han Tian, Chaoliang Zeng, **Xinchen Wan**, and Kai Chen. Astraea: towards fair and efficient learning-based congestion control. In *Proc. ACM EuroSys*, 2024.

[7] Hao Wang, Han Tian, Jingrong Chen, **Xinchen Wan**, Jiacheng Xia, Gaoxiong Zeng, Wei Bai, Junchen Jiang, Yong Wang, and Kai Chen. Towards domain-specific network transport for distributed dnn training. In *Proc. USENIX NSDI*, 2024.

[8] Zilong Wang, **Xinchen Wan**, Luyang Li, Yijun Sun, Peng Xie, Xin Wei, Qingsong Ning, Junxue Zhang, and Kai Chen. Fast, scalable, and accurate rate limiter for rdma nics. In *Proc. ACM SIGCOMM*, 2024.

[9] Chaoliang Zeng, Xudong Liao, Xiaodian Cheng, Han Tian, **Xinchen Wan**, Hao Wang, and Kai Chen. Accelerating neural recommendation training with embedding scheduling. In *Proc. USENIX NSDI*, 2024.

[10] **Xinchen Wan**, Kaiqiang Xu, Xudong Liao, Yilun Jin, Kai Chen, and Xin Jin. Scalable and efficient full-graph gnn training for large graphs. In *Proc. ACM SIGMOD*, 2023.

[11] Zilong Wang, Layong Luo, Qingsong Ning, Chaoliang Zeng, Wenxue Li, **Xinchen Wan**, Peng Xie, Tao Feng, Ke Cheng, Xiongfei Geng, et al. Srnic: a scalable architecture for rdma nics. In *Proc. USENIX NSDI*, 2023.

[12] Zilong Wang, **Xinchen Wan**, Chaoliang Zeng, and Kai Chen. Accurate and scalable rate limiter for rdma nics. In *Proc. ACM APNet*, 2023.

[13] **Xinchen Wan**, Kai Chen, and Yiming Zhang. Dgs: communication-efficient graph sampling for distributed gnn training. In *Proc. IEEE ICNP*, 2022.

[14] **Xinchen Wan**, Hong Zhang, Hao Wang, Shuihai Hu, Junxue Zhang, and Kai Chen. Rat-resilient allreduce tree for distributed machine learning. In *Proc. ACM APNet*, 2020.

Journal Articles

[1] Kaiqiang Xu, **Xinchen Wan**, Hao Wang, Zhenghang Ren, Xudong Liao, Decang Sun, Chaoliang Zeng, and Kai Chen. Tacc: a full-stack cloud computing infrastructure for machine learning tasks. *arXiv preprint arXiv:2110.01556*, 2021.

[2] Hao Wang, Jingrong Chen, **Xinchen Wan**, Han Tian, Jiacheng Xia, Gaoxiong Zeng, Weiyan Wang, Kai Chen, Wei Bai, and Junchen Jiang. Domain-specific communication optimization for distributed dnn training. *arXiv preprint arXiv:2008.08445*, 2020.

Industrial Experiences

Nov 2021 - Aug 2023	Research Intern, Hardware Acceleration Group	*ByteDance, Beijing*

Worked with Dr. Layong Luo. Design an RDMA-based AI Interconnect network, and a generic and efficient platform for Message-level In-Network Computing.

Academic Services

2025	IEEE/ACM Transactions on Networking (ToN) reviewer
2022	IEEE Transactions on Computers (TC) reviewer

Awards

2018-now	Postgraduate Student Scholarship	*HKUST*
2017	Chinese National Scholarship	*Ministry of Education*
2016	Learning Excellence Scholarship (Top 2 students in CS department)	*HUST*
2015	Outstanding Student Cadres Scholarship	*HUST*

Talks

2023	Scalable and Efficient Full-Graph GNN Training for Large Graphs	*Seattle, USA*
2022	DGS: Communication-Efficient Graph Sampling for Distributed GNN Training	*Online*
2020	Rat-resilient allreduce tree for distributed DNN training	*Online*

Teaching Experiences

2019 Fall - 2021 Spring	Teaching Assistant Coordinator at HKUST CSE
2019 Spring	Teaching Assistant of HKUST COMP1022Q Excel VBA

Skills

Languages	Mandarin Chinese (native), English (proficiency)
Programming	C/C++, Python, Go, LaTeX, Bash scripts