ZHIYUAN WU

CONTACT INFORMATION

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EDUCATION

2025.09-Present　Ph.D in Department of Computer Science and Technology, Tsinghua University

2022.09-2025.07　MSc in Institute of Computing Technology, Chinese Academy of Sciences

RESEARCH INTERESTS

Intelligent Network, Distributed Systems, Edge-Cloud Collaboration

SELECTED PUBLICATIONS

Zhiyuan Wu, Sheng Sun, Yuwei Wang, Min Liu, Quyang Pan, Xuefeng Jiang, and Bo Gao. FedICT: Federated Multi-task Distillation for Multi-access Edge Computing. *IEEE Transactions on Parallel and Distributed Systems (TPDS)*. 2024 (**ESI Highly Cited Paper**)

Zhiyuan Wu, Sheng Sun, Yuwei Wang, Min Liu, Bo Gao, Quyang Pan, Tianliu He, Xuefeng Jiang. Agglomerative Federated Learning: Empowering Larger Model Training via End-Edge-Cloud Collaboration. *IEEE International Conference on Computer Communications (INFOCOM)*. 2024 (**IEEE Xplore Popular Article, Rank 1/256 in INFOCOM 2024, Rank 3/1000+ in INFOCOM Proceedings**)

Zhiyuan Wu, Sheng Sun, Yuwei Wang, Min Liu, Ke Xu, Wen Wang, Xuefeng Jiang, Bo Gao, and Jinda Lu. FedCache: A Knowledge Cache-driven Federated Learning Architecture for Personalized Edge Intelligence. *IEEE Transactions on Mobile Computing (TMC)*. 2024 (**IEEE Xplore Popular Article**)

Zhiyuan Wu, Sheng Sun, Yuwei Wang*, Bo Gao, Jinda Lu, Zheming Yang, Tian Wen. Recursive Offloading for LLM Serving in Multi-tier Networks. *IEEE Transactions on Mobile Computing (TMC)*. 2026

Zhiyuan Wu, Sheng Sun, Yuwei Wang, Min Liu, Quyang Pan, Junbo Zhang, Zeju Li, and Qingxiang Liu. Exploring the Distributed Knowledge Congruence in Proxy-data-free Federated Distillation. *ACM Transactions on Intelligent Systems and Technology (TIST)*. 2024

Zhiyuan Wu, Sheng Sun, Yuwei Wang*, Min Liu, Ke Xu, Quyang Pan, Bo Gao, and Tian Wen. Beyond Model Scale Limits: End-Edge-Cloud Federated Learning with Self-Rectified Knowledge Agglomeration. Under Review in *IEEE/ACM Transactions on Networking (ToN).* 2025

Zhiyuan Wu, Tianliu He, Sheng Sun, Yuwei Wang*, Min Liu, Bo Gao, and Xuefeng Jiang. Federated Class-Incremental Learning with New-Class Augmented Self-Distillation. *Journal of Computer Science and Technology (JCST)*, 2025

Sheng Sun, Zengqi Zhang, Quyang Pan, Min Liu*, Yuwei Wang, Tianliu He, Yali Chen, and **Zhiyuan Wu**. Staleness-Controlled Asynchronous Federated Learning: Accuracy and Efficiency Tradeoff. *IEEE Transactions on Mobile Computing (TMC)*, 2024

Yanyu Ren, Li Chen, Dan Li*, Xizheng Wang, **Zhiyuan Wu**, Yukai Miao, Yu Bai. Transcending Cost-Quality Tradeoff in Agent Serving via Session-Awareness. *Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2025

Yanyu Ren, Yukai Miao, Li Chen, Dan Li*, Xizheng Wang, Yu Bai, **Zhiyuan Wu**, Fei Long. Towards Automatic Network Diagram Comprehension *International Conference on Network Protocols (ICNP)*, 2025

Quyang Pan, Sheng Sun, Tingting Wu, **Zhiyuan Wu**, Yuwei Wang*, Min Liu, Bo Gao, Jingyuan Wang. Re-architecting Personalized Federated Learning for Demanding Edge Environments. *AAAI Conference on Artificial Intelligence (AAAI)*, 2026

Wen Wang, Shuyong Zhu*, Tianyu Zuo, **Zhiyuan Wu**, Yujun Zhang. NET-SM4: A High-performance Secure Encryption Mechanism Based on In-Network Computing. *IEEE/ACM International Symposium on Quality of Service (IWQoS)*, 2025

Wen Wang, Shuyong Zhu*, **Zhiyuan Wu**, Lu Lu, Zhiqiang Li, Hongwei Yang, Yujun Zhang. RADD: A Real-time and Accurate

Method for DDoS Detection Based on In-Network Computing. *IEEE International Conference on Communications (ICC)*, 2024

Xuefeng Jiang, Sheng Sun, Jia Li, Jingjing Xue, Runhan Li, **Zhiyuan Wu**, Gang Xu, Yuwei Wang and Min Liu*. Tackling Noisy Clients in Federated Learning with End-to-end Label Correction. *ACM International Conference on Information and Knowledge Management (CIKM)*, 2024

HONORS AND AWARDS

President Award, Chinese Academy of Sciences, 2025

President Special Prize, Institute of Computing Technology, Chinese Academy of Sciences, 2024

National Scholarship, 2024

National Scholarship, 2023

Pacemaker to Merit Students, 2024

Outstanding Graduate of Beijing, 2025

Efunda Fintech Freshman Scholarship, 2023

TECHNICAL REVIEWER

IEEE Transactions on Mobile Computing (TMC)

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

International Conference on Machine Learning (ICML)

Advances in Neural Information Processing Systems (NeurIPS)

International Conference on Learning Representations (ICLR)

IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)

AAAI Conference on Artificial Intelligence (AAAI)

International Joint Conference on Artificial Intelligence (IJCAI)

ACM International Conference on Multimedia (ACM MM)

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