Wenke Huang

https://wenkehuang.github.io

Personal Information

Concat: wenkehuang@whu.edu.cn
Github: github.com/wenkehuang
Wechat: Wenke060502
LinkedIn: Link
Blog: Link
Research Field: Federated Learning, Multi-modality, and Fintech Link

Education

Wuhan University, Wuhan, China — Sep. 2021 – Present
PhD Student in School of Computer Science
Advisor Prof. Mang Ye and Prof. Bo Du

Wuhan University, Wuhan, China — Sep. 2017 – Jun. 2021
Bachelor of Software Engineering

Wuhan University, Wuhan, China — Sep. 2018 – Jun. 2021
Bachelor of Finance

Changjun High School, Changsha, China — Sep. 2014 – Jun. 2017
Senior high school

Research Experience

Microsoft Research Asia, Beijing, China — April. 2023 – Jun. 2023
Research Intern in Social Computing Group, advised by Fangzhao Wu

Alibaba Group, Hangzhou, China — Jun. 2020 – Aug. 2020
Research Intern in alibaba-xux Team

Wuhan University, Wuhan, China — Nov. 2018 – Mar. 2020
Research Intern in NIS&P Lab, advised by Zhibo Wang

RESEARCH INTERESTS

My research focuses on the reliability of distributed deep learning, with an emphasis on generalization, robustness, fairness, and their interconnections (arXiv'23 [5]).

Generalization Federated Learning: We aim to extend the federated learning to the wild challenge scenarios with model heterogeneity (TPAMI'23 [3], CVPR'22 [1], ACMMM [2]) and data heterogeneity (CVPR'23 [4], IJCAI'23 [6], AAAI'24 [7]).

Robustness Federated Learning: Federated learning is vulnerable to various malicious manipulations. We conduct the research on the differential privacy NeurIPS'23 [8].

† means equal contribution

References

[1] **Wenke Huang**, Mang Ye, and Bo Du. Learn from others and be yourself in heterogeneous federated learning. In *CVPR*, 2022.

[2] **Wenke Huang**, Mang Ye, Bo Du, and Xiang Gao. Few-shot model agnostic federated learning. In *ACM MM*, 2022.

[3] **Wenke Huang**, Mang Ye, Zekun Shi, and Bo Du. Generalizable heterogeneous federated cross-correlation and instance similarity learning. *IEEE TPAMI*, 2023.

[4] **Wenke Huang**, Mang Ye, Zekun Shi, He Li, and Bo Du. Rethinking federated learning with domain shift: A prototype view. In *CVPR*, 2023.

[5] **Wenke Huang**, Mang Ye, Zekun Shi, Guancheng Wan, He Li, Bo Du, and Qiang Yang. A federated learning for generalization, robustness, fairness: A survey and benchmark. *arXiv*, 2023.

[6] **Wenke Huang**†, Guancheng Wan†, Mang Ye, and Bo Du. Federated graph semantic and structural learning. In *IJCAI*, 2023.

[7] Guancheng Wan, **Wenke Huang**, and Mang Ye. Federated graph learning under domain shift with generalizable prototypes. 2024.

[8] Xiyuan Yang†, **Wenke Huang**†, and Mang Ye. Dynamic personalized federated learning with adaptive differential privacy. In *NeurIPS*, 2023.

Selected Honors

Scholarship of Graduate Academic Innovation (**First** Prize) Link	Oct. 2023
Scholarship of Guotai Junan Securities Co.,Ltd (**First** Prize / Top **2**) Link	Nov. 2022
National Second Prize in the 9^{rd} CHINA SOFTWARE CUP Demo	Aug. 2020
Meritorious Winner in the MCM/ICM Link	Feb. 2020
Futures Practitioner Qualification Certificate from China Futures Association Link	Nov. 2019
National Third Prize in the 8^{rd} CHINA SOFTWARE CUP Demo	Sep. 2019
Second National Scholarship from Ministry of Education of China	Nov. 2018

Service & Talk

Conference Reviewer: CVPR (2024), ECCV (2024), ICCV (2023), AAAI (2024), ACCV (2024)

Journal Reviewer: IEEE TIFS, IEEE TKDE, IEEE TNNLS, IEEE TNET, ACM TKDD

MISC

Interests: Fitness, Surfing, Running, Basketball, Football

Instruments: Piano, Electronic Organ, Guitar

Music: Boombap, Melodic Rap, Hardcore Rap