ZHAOMIN WU

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BIO

Dr. Zhaomin Wu is a Research Fellow at the Department of Computer Science, National University of Singapore (NUS). He earned his Ph.D. in Computer Science from NUS in 2024, advised by Prof. Bingsheng He, and obtained a Bachelor's degree from Huazhong University of Science and Technology in 2019. Dr. Wu's research focuses on trustworthy machine learning, with specific interests in vertical federated learning, machine unlearning, and trustworthy large language models. His work has been recognized with awards such as the SIGMOD Honorable Mention for Best Artifact (2023), the Dean's Graduate Research Excellence Award (NUS, 2023), the Best Research Staff Award (NUS, 2025), and an Honorable Mention for Best Ph.D. Thesis Award (NUS, 2024). His publications appear in top-tier venues including NeurIPS, ICLR, SIGMOD, KDD, WWW, ACL, EMNLP, AAAI, MLSys, and TKDE.

EDUCATION

National University of Singapore (NUS), Singapore　　　　07/2019 – 05/2024
Doctor of Philosophy – Computer Science　　　　Advisor: Prof. Bingsheng He
Thesis: Towards Practical Vertical Federated Learning
Honorable Mention for Best Ph.D. Thesis Award

Huazhong University of Science and Technology (HUST), China　　09/2015 – 06/2019
Bachelor of Engineering – ACM class, Computer Science and Technology
GPA: 3.91/4.0, Rank: 10/281
Outstanding Undergraduate Thesis Award

EMPLOYMENT

National University of Singapore (NUS), Singapore　　　　05/2024 – 06/2025
Research Fellow – Institute of Data Science　　　　PI: Prof. Ng See Kiong
Best Research Staff Award

National University of Singapore (NUS), Singapore　　　　07/2025 – Present
Research Fellow – Department of Computer Science　　　　PI: Prof. Bingsheng He

PUBLICATIONS *Equal contribution, †Corresponding author

[AAAI 2020] Privacy-Preserving Gradient Boosting Decision Trees
Qinbin Li, Zhaomin Wu, Zeyi Wen, Bingsheng He

[TIST 2021] The Oarf Benchmark Suite: Characterization and Implications for Federated Learning Systems
Sixu Hu, Yuan Li, Xu Liu, Qinbin Li, Zhaomin Wu, Bingsheng He

[NeurIPS 2022] A Coupled Design of Exploiting Record Similarity for Practical Vertical Federated Learning
Zhaomin Wu, Qinbin Li, Bingsheng He

[TBD 2022] Practical Vertical Federated Learning with Unsupervised Representation Learning
Zhaomin Wu, Qinbin Li, Bingsheng He

[TKDE 2022] A Survey on Federated Learning Systems: Vision, Hype and Reality for Data Privacy and Protection

Qinbin Li, Zeyi Wen, <u>Zhaomin Wu</u>, Sixu Hu, Naibo Wang, Yuan Li, Xu Liu, Bingsheng He

[SIGMOD 2023] DeltaBoost: Gradient Boosting Decision Trees with Efficient Machine Unlearning *(Honorable Mention for Best Artifact)*

<u>Zhaomin Wu</u>, Junhui Zhu, Qinbin Li, Bingsheng He

[MLSys 2023] FedTree: A Federated Learning System for Trees

Qinbin Li, <u>Zhaomin Wu</u>, Yanzheng Cai, Yuxuan Han, Ching Man Yung, Tianyuan Fu, Bingsheng He

[NeurIPS 2024] Federated Transformer: Multi-Party Vertical Federated Learning on Practical Fuzzily Linked Data

<u>Zhaomin Wu</u>, Junyi Hou, Yiqun Diao, Bingsheng He

[ICLR 2024] VertiBench: Advancing Feature Distribution Diversity in Vertical Federated Learning Benchmarks

<u>Zhaomin Wu</u>, Junyi Hou, Bingsheng He

[ArXiv 2025] WikiDBGraph: Large-Scale Database Graph of Wikidata for Collaborative Learning

<u>Zhaomin Wu</u>[*], Ziyang Wang[*], Bingsheng He

[ArXiv 2025] Vertical Federated Learning in Practice: The Good, the Bad, and the Ugly

<u>Zhaomin Wu</u>, Zhen Qin, Junyi Hou, Haodong Zhao, Qinbin Li, Bingsheng He, Lixin Fan

[ArXiv 2025] Learning Relational Tabular Data without Shared Features

<u>Zhaomin Wu</u>, Shida Wang, Ziyang Wang, Bingsheng He

[EMNLP 2025] Model-based Large Language Model Customization as Service

<u>Zhaomin Wu</u>[*], Jizhou Guo[*], Junyi Hou, Bingsheng He, Lixin Fan, Qiang Yang

[ACL 2025] Federated Data-Efficient Instruction Tuning for Large Language Models

Zhen Qin, <u>Zhaomin Wu</u>[†], Bingsheng He, Shuiguang Deng[†]

[ICLR 2026] Beyond Prompt-Induced Lies: Investigating LLM Deception on Benign Prompts
(Oral, 1%)

<u>Zhaomin Wu</u>, Mingzhe Du, See-Kiong Ng, Bingsheng He

[ICLR 2026] LLM DNA: Tracing Model Evolution via Functional Representations
(Oral, 1%)

<u>Zhaomin Wu</u>, Haodong Zhao, Ziyang Wang, Jizhou Guo, Qian Wang, Bingsheng He

[KDD 2026] Reward Inside the Model: A Lightweight Hidden-State Reward Model for LLM's Best-of-N sampling

Jizhou Guo, <u>Zhaomin Wu</u>[†], Philip S. Yu

[WWW 2026] Personalized Federated Fine-Tuning for LLMs via Data-Driven Heterogeneous Model Architectures

Yicheng Zhang, Zhen Qin, <u>Zhaomin Wu</u>, Shuiguang Deng[†]

HONORS AND AWARDS

Best Research Staff Award (2/~50 in NUS IDS)	2025
Honorable Mention for Best PhD Thesis Award (5/~150 in NUS SoC)	2024
SIGMOD Honorable Mention for Best Artifact (3/~600 SIGMOD submissions)	2023
Dean's Graduate Research Excellence Award (10/~150 in NUS SoC)	2023

Outstanding Undergraduate Thesis (5% in HUST)	2019
Meritorious Winner in Mathematical Contest in Modelling (10% worldwide)	2018
National Scholarship (1% in HUST)	2017
Outstanding Students (1% in HUST)	2016
Merit Student (5% in HUST)	2016

PROFESSIONAL SERVICES

Conference Reviewer: ICML, NeurIPS, AAAI, ICLR	2025
Conference Reviewer: ICLR, NeurIPS, KDD, WWW, AISTATS	2024
Conference Reviewer: NeurIPS, SIGMOD (Artifact)	2023
Conference Reviewer: PAKDD	2022
Conference Reviewer: PAKDD	2021
Journal Reviewer: TDSC, TPDS, TAI	2025
Journal Reviewer: TKDD, JPDC, TNNLS	2024
Journal Reviewer: TPAMI, TKDE, TNNLS, IJCV, IoT-J	2023
Journal Reviewer: TPDS, TIST	2022
Tutorial Speaker: IJCAI	2020

TEACHING & MENTORSHIP

Teaching Assistant

• Introduction to Operating Systems (CS2106)	Fall 2022
• Software Testing (CS4218)	Spring 2022
• Neural Networks and Deep Learning (CS5242)	Fall 2021
• Programming Methodology (II) (CS2030)	Spring 2021
• Big Data Systems for Data Science (CS4225)	Fall 2020
• Data Structures and Algorithms (CS2040S)	Spring 2020
• Programming Methodology (CS1010E)	Fall 2019

Mentored Students

• **Ziyang Wang** - Master student and research intern, NUS	2024 – 2025
• **Haodong Zhao** - Visiting Ph.D. student, Shanghai Jiao Tong University	2024 – 2025
• **Zhen Qin** - Visiting Ph.D. student, Zhejiang University	2024 – 2025
– Now an Assistant Professor in Zhejiang University	
• **Jizhou Guo** - Undergraduate research intern, Shanghai Jiao Tong University	2024
• **Junyi Hou** - Master student and research intern, NUS	2023 – 2024
– Now a Ph.D. student in NUS	
• **Junhui Zhu** - Master student and research intern, NUS	2022

LANGUAGE

Chinese (Mandarin)	Native speaker
English	Professional working proficiency