

YUHAN CHEN

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Education

Wuhan University

Bachelor of Engineering in Computer Science

GPA: 3.74/4.0, Average Score: 88.3/100

Research Area: Federated Learning, Trustworthy Machine Learning

Wuhan, China

Sep. 2021 – Jun. 2025

Publications

† Equal contribution

Yuhang Chen[†], Wenke Huang[†], Mang Ye. “Fair Federated Learning under Domain Skew with Local Consistency and Domain Diversity”, accepted to **CVPR** 2024.

- In this paper, we discovered a new characteristic, parameter update consistency, in Federated Learning under domain skew. Utilizing this property, we addressed parameter update conflict and model aggregation bias to boost performance fairness in Federated Learning.
- In this paper, I cover all works including literature review, problem identification, property discovery, methodology design, experiment conduction and manuscript drafting.

Wenke Huang[†], **Yuhang Chen**[†], Zekun Shi, Mang Ye, et al. “Design Your Local Epoch for Performance Fairness in Federated Learning”, in submission.

Experiences & Projects

MARS Group, Wuhan University *Research Assistant*

Jun. 2023 - Present

- Topics: Federated Learning, Fairness in Machine Learning
- Specialized in federated learning and performance fairness within the domain. Developed two innovative frameworks aimed at enhancing model performance and fairness in distributed environments. One framework published in CVPR, and another currently under review.

Chatbot Design Based on LLaMA-33B

Jun. 2023

- Fine-tuned the pre-trained LLaMA model using an open-source Chinese corpus to enhance its fluency in Chinese conversational contexts.
- Implemented QLoRA technology (NF4 Quantization, LoRA, Paged Optimizer) to reduce GPU Video Memory usage, facilitating fine-tuning on a single NVIDIA 3090 GPU.
- Developed a user-friendly interaction interface using vue.js for UI design.
- Built back-end logic and databases with Django, ensuring stable and efficient request handling.

RISC-V Five-stage Pipeline CPU Design

Mar. 2023

- Self-designed single-cycle and five-stage pipeline CPU in RISC-V framework.
- Assembly programming and debugging on Venus platform for testing the hazard detection and interrupts.
- Programming simple games with assembly instructions and display via VGA on FPGA development boards.

FiberHome Telecommunication Technologies Co., Ltd. *Visiting Student*

Jul. 2022

- Learned basic techniques of network communication facilities and network programming.
- Conducted basic operation and maintenance of network servers.

Awards & Honors

Excellent Student, Wuhan University

Sep. 2023

Third Class Scholarship, Wuhan University

Sep. 2023

National Third Prize, China Collegiate Computing Contest - Group Programming Ladder Tournament

Mar. 2023

Bronze Medal, Hubei Province Collegiate Programming Contest

Mar. 2022

Skills

Languages: Chinese (native), English (fluent, IELTS 6.5), Wu Dialect (native, Cangnan, Wenzhou).

Technical Skills: Proficient in Python, C++, C, \LaTeX , PyTorch; familiar with Java, HTML/CSS, JavaScript.

Development Tools: Proficient in Linux, Windows, Git, VS Code, PyCharm.