

Haoliang Fan

Zhuhai, China | fanhx6@mail2.sysu.edu.cn | Google Scholar

Education

Sun Yat-sen University (SYSU), Master's Degree in Artificial Intelligence Sept. 2023 – Present

- School of Artificial Intelligence
- **Advisor:** Zhenhui Peng
- Average score: 92.7 / 100

Jinan University (JNU), Bachelor's Degree in Computer Science and Technology Sept. 2019 – June. 2023

- College of Information Science and Technology
- GPA: 3.85/5.0 (8%)

Research Interests

Human-Computer Interaction: human-AI collaboration, decision making, tangible / voice / graphic user interface, intelligent system for education, and human-robot interaction.

Artificial Intelligence: multimodal large language model, computer vision, image generation.

Selected Publications

LitLinker: Supporting the Ideation of Interdisciplinary Contexts with Large Language Models for Teaching Literature in Elementary Schools 2025

Haoliang Fan, Changshuang Zhou, Hao Yu, Xueyang Wu, Jiangyu Gu, and Zhenhui Peng
CHI Conference on Human Factors in Computing Systems (**CHI '25**).

LessonPlanner: Assisting Novice Teachers to Prepare Pedagogy-Driven Lesson Plans with Large Language Models 2024

Haoliang Fan, Guanzheng Chen, Xingbo Wang, and Zhenhui Peng
The 37th Annual ACM Symposium on User Interface Software and Technology (**UIST '24**).

Exploring the Usage of Generative AI for Group Project-Based Offline Art Courses in Elementary Schools 2025

Zhiqing Wang, *Haoliang Fan*, Qiaoyi Chen, Shiwei Wu, Yongqi Liang, and Zhenhui Peng
The 28th ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (**CSCW '25**).

TPMN: Texture Prior-Aware Multi-Level Feature Fusion Network for Corrugated Cardboard Parcels Defect Detection 2024

Xing He, *Haoliang Fan*, Cuifeng Du, Xingyu Zhu, and others
International Journal of Advanced Computer Science & Applications

ReDBot: Exploring Conversational Recommendation for Decision-Making Support in Group Chats 2023

Qiushi Han, Haitong Chen, *Haoliang Fan*, and Zhenhui Peng
Proceedings of the Eleventh International Symposium of Chinese CHI, pp. 73–80.

Experience

Research intern in Pervasive HCI Lab, Tsinghua University Jan. 2025 - Apr. 2025

An AI-based educational tool is designed to enhance children's mathematical learning through interaction with real-world objects (perceived by GoPro). I am involved in system design, developing the LLM workflow (using LangChain), conducting user studies, data analysis, and writing. Paper is submitted to UIST 2025, as the second author.

Research intern in School of Intelligent Systems Engineering, SYSU

Sept. 2024 - Nov. 2024

Supervised by Prof. Xiaodan Liang. The project is about address the challenging task of multimodal mathematical reasoning by incorporating the ability of slow thinking. I worked in adapted RLHF in models and writing. Our papers *Can Atomic Step Decomposition Enhance the Self-structured Reasoning of Multimodal Large Models?* and *AtomThink* are available on arxiv.

National Undergraduate Innovation and Entrepreneurship Training Program, Jinan University

Aug. 2021 - June. 2022

Project Lead, and supervised by Prof. Xiaoming Wang. The project focused on federated learning, recommender systems, and recurrent neural networks. I developed a two-tower model recommender system using federated learning. We integrated LSTM into a two-tower model to capture temporal user interest features and applied a novel Federated Reconstruction algorithm for privacy-preserving recommendations.

Skills and Language

Programming:

- **Web Development: Frontend:** Vue.js (Element) **Backend:** Python (FastAPI), GoLang (go-zero), SQL
- **Machine Learning:** Python (PyTorch, TensorFlow)
- **Others:** LaTeX, C, C++

English: CET 6: 553, IELTS: 6.5 (2022)

Academic Activities

Reviewer for CSCW'23, CHI'25, and CHI'25 late breaking works.

Teaching assistant for “Data Structure and Algorithm” and its lab sessions, 2023 Fall; for the lab sessions of “Principles of Artificial Intelligence”, 2024 Spring.

Honors

First Prize Graduate Scholarship , Sun Yat-sen University	2024, 2023
Finalist , The 3rd Guangdong-Hong Kong-Macau College Student Public Administration Data Analysis Contest	2023
Third Prize , 10th “China Software Cup” College Student Software Design Competition, Project: Handwriting Input Method on Linux Platform	2021
The Third Prize Scholarship , Jinan University	2021, 2020
Champion , 28th “Jinan Cup” Debate Competition of Jinan University	2020