

JIASHI GAO

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EDUCATION

Southern University of Science and Technology *Supervisor: Prof. Xuetao Wei* Shenzhen, China
PhD in *Intelligent Manufacturing and Robotics* Sep 2021- Jun 2025(Expected)
Thesis: “Enhancing Fairness in Artificial Intelligence Systems for Heterogeneous Human Participants”

Huazhong University of Science and Technology *Supervisor: Prof. Yongji Wang* Wuhan, China
M.Eng. in Aircraft Navigation, Guidance and Control Sep 2016- Jun 2019
Thesis: “Reentry Trajectory Optimization and Guidance Method for Lifting Vehicle”

University of Electronic Science and Technology of China Chengdu, China
B.Eng. in Measurement and Control Technology and Instruments Sep 2012- Jun 2016

RESEARCH INTERESTS

My research interests have focused on identifying and finding solutions to the key societal challenges in artificial intelligence (AI). Specifically, I have investigated the interaction between sociology, economics, and AI to examine fairness issues in collaborative model training and human-AI collaboration.

WORK EXPERIENCE

Southern University of Science and Technology Oct 2020- Aug 2021
Research assistant: Research on intelligent transportation systems *Supervisor: Prof. James J.Q. Yu*

Huawei Technologies Co., Ltd Jul 2019- Jan 2020
Data engineer: Enterprise data lake construction and governance

HONORS

Outstanding Contribution Award of the Year, WEI Lab@SUSTech	2023
Outstanding Trainee in Hardware Installation Training, Huawei Technologies Co., Ltd.	2019
Outstanding Graduate Scholarship (2 times), HUST	2017, 2018
School Outstanding Graduate, UESTC	2016
First Prize of National College Student Electronic Design Competition, UESTC	2015
People’s Scholarship (2 times), UESTC	2013, 2014
Seagate Scholarship, UESTC	2012

SELECTED WORKS

AI Fairness

- [1] **Jiashi Gao**, Ziwei Wang, Xiangyu Zhao, Xin Yao, and Xuetao Wei. Does Egalitarian Fairness Lead to Instability? The Fairness Bounds in Stable Federated Learning Under Altruistic Behaviors. In The Thirty-eighth Annual Conference on Neural Information Processing Systems (NeurIPS). 2024.
- [2] **Jiashi Gao**, Ziwei Wang, Xiangyu Zhao, Xin Yao, and Xuetao Wei. Surviving in Diverse Biases: Unbiased Dataset Acquisition in Online Data Market for Fair Model Training. In Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society (AIES), vol. 7, pp. 451-462. 2024.
- [3] **Jiashi Gao**, Xin Yao, and Xuetao Wei. Anti-Matthew FL: Bridging the Performance Gap in Federated Learning to Counteract the Matthew Effect. In The 27th European Conference on Artificial Intelligence (ECAI), pp. 1967-1974. 2024.
- [4] Junlei Zhou, **Jiashi Gao**, Xiangyu Zhao, Xin Yao, and Xuetao Wei. Association of Objects May Engender Stereotypes: Mitigating Association-Engendered Stereotypes in Text-to-Image Generation. In The Thirty-eighth Annual Conference on Neural Information Processing Systems (NeurIPS). 2024.

- [5] Ziyi Zhou, Xinwei Guo, **Jiashi Gao**, Xiangyu Zhao, Shiyao Zhang, Xin Yao, and Xuetao Wei. Unveiling the Bias Impact on Symmetric Moral Consistency of Large Language Models. In The Thirty-eighth Annual Conference on Neural Information Processing Systems (NeurIPS). 2024.
- [6] **Jiashi Gao**, Kexin Liu, Xinwei Guo, Junlei Zhou, Jiaxin Zhang, Xiangyu Zhao, Xin Yao, Xuetao Wei. Human Expertise Really Matters! Mitigating Unfair Utility Induced by Heterogenous Human Expertise in AI-assisted Decision-Making, under review.
- [7] **Jiashi Gao**, Ziwei Wang, Xiangyu Zhao, Xin Yao, and Xuetao Wei. PFAttack: Stealthy Attack Bypassing Group Fairness in Federated Learning. arXiv preprint.

Economics in Digital Assets Transactions

- [1] **Jiashi Gao**, Ziwei Wang, and Xuetao Wei. An Adaptive Pricing Framework for Real-Time AI Model Service Exchange, in IEEE Transactions on Network Science and Engineering, vol. 11, no. 5, pp. 5114-5129. 2024.
- [2] Ziwei Wang, **Jiashi Gao**, and Xuetao Wei. Do NFTs' owners really possess their assets? A first look at the NFT-to-asset connection fragility. In Proceedings of the ACM Web Conference (WWW), pp. 2099-2109. 2023.
- [3] **Jiashi Gao**, Ziwei Wang, and Xuetao Wei. Incentive Data Monetization: Robust Valuation for Divisible Assets in Partial-Purchasing Service. Major Revision. 2024.

AI for Transportation Applications

- [1] **Jiashi Gao**, Xinming Shi, and J. Q. James. Attn-CommNet: coordinated traffic lights control on large-scale network level. In 33rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI), pp. 289-293. IEEE, 2021.
- [2] **Jiashi Gao**, Xinming Shi, and James JQ Yu. Social-dualvae: multimodal trajectory forecasting based on social interactions pattern aware and dual conditional variational auto-encoder. arXiv preprint.

Evolutionary Computing

- [1] Xinming Shi, **Jiashi Gao**, Leandro L. Minku, and Xin Yao. Evolving parsimonious circuits through Shapley value-based genetic programming. In Proceedings of the Genetic and Evolutionary Computation Conference Companion (GECCO), pp. 602-605. 2022.
- [2] Xinming Shi, **Jiashi Gao**, Leandro L. Minku, J. Q. James, and Xin Yao. Second-order time delay reservoir computing for nonlinear time series problems. In 2021 IEEE Symposium Series on Computational Intelligence (SSCI), pp. 1-8. IEEE, 2021.

PRESENTATIONS

Conferences & Forums

27th European Conference on Artificial Intelligence (ECAI 2024), Santiago de Compostela, Spain October 2024

Seminar Talks

1st NeurIPS 2024 Seminar @ SUSTech, Shenzhen, China December 2024

TEACHING EXPERIENCE

Teaching assistant, CSE5005: Advanced Computer Networks and Big Data	Fall 2023
Teaching assistant, CS109: Introduction to Computer Programming	Spring 2023

PROFESSIONAL SERVICES

Reviewer

IEEE Transactions on Network Science and Engineering (IEEE TNSE)	2024
International Conference on Learning Representations (ICLR)	2024
Conference on Neural Information Processing Systems (NeurIPS)	2024
ACM Multimedia (MM)	2023
Latin America Congress on Computational Intelligence (LA-CCI)	2023