Shao Zhang

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Research Interests

Shao's research interests include Human-AI Collaboration and Multi-agent System. Specifically, she is now focusing on:

- **AI-in-the-Loop Deployment** for task-oriented agent in real world scenario,
- **Zero-shot Coordination** for human-AI teams via multi-agent learning (MARL),
- **Bidirectional Alignment** for human-AI teams via Large Language Models (LLMs).

Education

Doctor of Philosophy in Electronic Information (expected June, 2025)
Advisors: Prof. Ying Wen and Prof. Xinbing Wang
Shanghai Jiao Tong University, Shanghai, China **Sep 2021 - Present**

Visiting PhD Student
Advisor: Prof. Dakuo Wang
Northeastern University, Boston, United States **Sep 2023 - Jun 2024**

Master of Science in Multimedia and Entertainment Technology (Game Development)
Advisor: Dr. William Liang
The Hong Kong Polytechnic University, Hong Kong SAR, China **Sep 2019 - Sep 2020**

Bachelor of Engineering in Industrial Design
Advisors: Prof. Youyu Jiang, Prof. Sheng Xiao and Prof. Beibei Zhan
Hunan University, Changsha, China **Sep 2015 - Jun 2019**

Selected Publications

*:Equal Contribution

J3 | Ziqi Yang*, Xuhai Xu*, Bingsheng Yao, **Shao Zhang**, Ethan Rogers, Stephen Intille, Nawar Shara, Guodong (Gordon) Gao, Dakuo Wang. **Talk2Care: Facilitating Asynchronous Patient-Provider Communication with Large-Language-Model.** Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT/Ubicomp2024). 2024. (CCF-A)

C3 | **Shao Zhang**, Jianing Yu, Xuhai Xu, Changchang Yin, Yuxuan Lu, Bingsheng Yao, Melanie Tory, Lace M. Padilla, Jeffrey Caterino, Ping Zhang, Dakuo Wang. **Rethinking Human-AI Collaboration in Complex Medical Decision Making: A Case Study in Sepsis Diagnosis.** In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems, CHI'24. (CCF-A)

C2 | Yang Li*, **Shao Zhang***, Jichen Sun, Yali Du, Ying Wen, Xinbing Wang, Wei Pan. **Cooperative Open-ended Learning Framework for Zero-shot Coordination.** Proceedings of the 40th International Conference of Machine Learning, ICML2023. (CCF-A)

J2 | **Shao Zhang**, Hui Xu, Yuting Jia, Ying Wen, Dakuo Wang, Luoyi Fu, Xinbing Wang, Chenghu Zhou. **GeoDeepShovel: A Platform for Building Scientific Database from Geoscience Literature with AI Assistance.** Geoscience Data Journal, 2023. (SCI)

J1 | Yuting Jia, **Shao Zhang**, Haiwen Wang, Ying Wen, Luoyi Fu, Huan Long, Xinbing Wang, Chenghu Zhou. **Investigating the geometric structure of neural activation spaces with convex hull approximations.** Neurocomputing, 2022. (CCF-C, SCI)

C1 | Jihui Zeng, Beibei Zhan, **Shao Zhang**, Jiajun Bie, Sheng Xiao. **Keyword Analysis Visualization for Chinese Historical Texts.** Proceedings of the 12th International Symposium on Visual Information Communication and Interaction, VINCI2019. (EI)

Papers in Submission

*:Equal Contribution

U3 | **Shao Zhang**, Shihan Fu, Bin Lu, Yuxuan Lu, Toby Jia-Jun Li, Dakuo Wang, Ying Wen, Xinbing Wang, Chenghu Zhou. **From Dark Data to Open Data: Challenges and Practices for Data Integrators of Data-Driven Open Science Projects in Geoscience.** In submission to CSCW2024, Major Revision.

U2 | Xihuai Wang, **Shao Zhang**, Wenhao Zhang, Wentao Dong, Ying Wen, Weinan Zhang. **Zero-shot Coordination as a Generalization Problem: Generating Behavior Preferring Partners to Enhance Evaluation.** In submission to Neurips2024.

U1 | Yang Li*, **Shao Zhang***, Jichen Sun, Wenhao Zhang, Yali Du, Ying Wen, Xinbing Wang, Wei Pan. **Tackling Cooperative Incompatibility for Zero-Shot Human-AI Coordination.** In submission to JAIR, Minor Revision.

Preprints

A3 | Xihuai Wang, **Shao Zhang**, Wenhao Zhang, Wentao Dong, Ying Wen, Weinan Zhang. **Quantifying Zero-shot Coordination Capability with Behavior Preferring Agents.** arxiv Preprint 2023.

A2 | **Shao Zhang**, Yuting Jia, Hui Xu, Dakuo Wang, Toby Jia-Jun Li, Ying Wen, Xinbing Wang, Chenghu Zhou. **KnowledgeShovel: An AI-in-the-Loop Document Annotation System for Scientific Knowledge Base Construction.** arxiv Preprint 2022.

A1 | **Shao Zhang**, Yuting Jia, Hui Xu, Ying Wen, Dakuo Wang, Xinbing Wang. **DeepShovel: An Online Collaborative Platform for Data Extraction in Geoscience Literature with AI Assistance.** arxiv Preprint 2022.

Services

CHI'23 Student Volunteer

IUI'24 PC Member

CSCW'24 Reviewer