

EDUCATION

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| <ul style="list-style-type: none"> Penn State University
Ph.D in Informatics Xidian University
B.Eng in Computer Science and Engineering
GPA: 3.9/4.0; Major score: 92.0/100; Rank: 1/134 | <p>State College, PA
08/2024 - 06/2028 (Expected)</p> <p>Xi'an, China
09/2020 - 06/2024</p> |
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PUBLICATIONS & MANUSCRIPTS

(* indicates equal contribution)

- Xiaobo Xia, **Jiale Liu**, Shaokun Zhang, Qingyun Wu, Tongliang Liu. Refined Coreset Selection: Towards Minimal Coreset Size under Model Performance Constraints. International Conference on Machine Learning (**ICML Spotlight**), 2024
- Shaokun Zhang, Jieyu Zhang, **Jiale Liu**, Linxin Song, Chi Wang, Ranjay Krishna, Qingyun Wu. Offline Training of Language Model Agents with Functions as Learnable Weights. International Conference on Machine Learning (**ICML**), 2024
- Qingyun Wu, Gagan Bansal, Jieyu Zhang, Yiran Wu, Beibin Li, Erkang Zhu, Li Jiang, Xiaoyun Zhang, Shaokun Zhang, **Jiale Liu**, Ahmed Hassan Awadallah, Ryen W White, Doug Burger, Chi Wang. Autogen: Enabling next-gen llm applications via multi-agent conversation framework. ICLR workshop on LLMAgents (**Best paper award**). Conference on Language Modeling (**COLM**), 2024
- Shaokun Zhang, Xiaobo Xia, Zhaoqing Wang, Ling-Hao Chen, **Jiale Liu**, Qingyun Wu, Tongliang Liu. IDEAL: Influence-Driven Selective Annotations Empower In-Context Learners in Large Language Models. International Conference on Learning Representations (**ICLR**), 2024.
- Xiaobo Xia, **Jiale Liu**, Jun Yu, Xu Shen, Bo Han, Tongliang Liu. Moderate Coreset: A Universal Method of Data Selection for Real-world Data Analysis. International Conference on Learning Representations (**ICLR**), 2023.
- Zhenxin Lei*, Wenjing Zhu*, **Jiale Liu***, Cong Hua, Johann Li, Syed Afaq Ali Shah, Liang Zhang, Mohammed Bennamoun, Cuiping Mao. RLAD: A Reliable Hippo-guided Multi-task Model for Alzheimer's Disease Diagnosis. IEEE Journal of Biomedical and Health Informatics (**J-BHI**)
- Xudong Guo, Kaixuan Huang, **Jiale Liu**, Wenhui Fan, Natalia Vélez, Qingyun Wu, Huazheng Wang, Thomas L Griffiths, Mengdi Wang. Embodied llm agents learn to cooperate in organized teams. NeurIPS workshop on Language Gamification, 2024.
- Linxin Song*, **Jiale Liu***, Jieyu Zhang, Shaokun Zhang, Ao Luo, Shijian Wang, Qingyun Wu, Chi Wang. Adaptive In-conversation Team Building for Language Model Agents. ArXiv preprint.

EXPERIENCE

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| <ul style="list-style-type: none"> Research Assistant at Penn State
Advisor: Qingyun Wu, Topic: Agentic AI Research Assistant at University of Sydney
Advisor: Tongliang Liu, Topic: Data-efficient Machine Learning | <p>Remote
05/2023 - 08/2024</p> <p>Remote
06/2022 - 06/2023</p> |
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- Work on creating and maintaining AutoGen, a multi-agent conversation framework that facilitates the development of LLM applications. The project reaches 34.7k stars since creation.
 - Explore how to automatically and dynamically build a team of language model agents to handle complex task query. Propose a coordinator agent to decompose tasks, then retrieve and generate a group of agents and equip them with proper tools to solve each subtask. The method reaches SOTA performance with least cost.
 - Explore LLM agents' self-refinement without modifying model weights. View tools as learnable parameters, which are iteratively refined based on performance feedback. The updated agent reaches SOTA on many tasks.
 - Introduced a novel coreset selection algorithm that can generalize to different tasks without any task-specific prior knowledge. The method reached SOTA performance while maintaining strong robustness.
 - Exploited the problem of minimizing coreset size under model performance constraints for the first time. The proposed lexicographic bilevel coreset selection enjoyed theoretical guarantee and competitive performance.

HONORS AND AWARDS

- OpenAI Reseacher Access Grant 06/2024
- Baoyan Duan Science and Education Innovation Scholarship (Awarded by CAS fellow to 5 undergrad) 12/2023
- **Chinese National Scholarship**, Ministry of Education of P.R. China 12/2021
- First Prize Scholarship, Xidian University 12/2022
- Finalist Winner (First prize), International Mathematical Contest in Modeling 04/2022
- First Prize in Jiangsu Province, Chinese Physics Olympiad (Rank 66) 10/2019

SERVICE

- Reviewer for ICLR'25, AISTATS'25, NIPS'24, ICML'24, CVPR'24, ACML'24, AJCAI'24, TIST, etc.
- Maintainer of open source project FLAML (3.7k stars), AutoGen (34.7k stars)