

XIANGYE LIN

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Education

Zhejiang University

Bachelor of Engineering in Computer Science and Technology

Hangzhou, China Sep. 2021 – Jun. 2025

GPA: 3.96/4.0 (91.68/100)

University of Massachusetts, Amherst

Master of Science in Computer Science

Amherst, MA, US Sep. 2025 – Dec. 2026 (Expected)

GPA: 4.0/4.0

Publications & Preprints

- **Xiangye Lin***, Hongxin Zhang*, Ruxi Deng, Qinhong Zhou, Chuang Gan. “Sentinel: Embodied Cooperative Spatial Reasoning and Planning” *under review*
- Qinhong Zhou*, Hongxin Zhang*, **Xiangye Lin***, Zheyuan Zhang*, Yutian Chen, Wenjun Liu, Zunzhe Zhang, Sunli Chen, Lixing Fang, Qiushi Lyu, Xinyu Sun, Jincheng Yang, Zeyuan Wang, Bao Chi Dang, Zhehuan Chen, Daksha Ladia, Jiageng Liu, Chuang Gan. “Virtual Community: An Open World for Humans, Robots, and Society” *ICLR 2026 Poster*
- Shuyi Ouyang, Jinyang Zhang, **Xiangye Lin**, Xilai Wang, Qingqing Chen, Yen-wei Chen, Lanfen Lin. “LSMS: Language-guided Scale-aware MedSegmentor for Medical Image Referring Segmentation” *Preprint*

Research Experience

Embodied multi-agent spatial reasoning and planning | UMass Amherst

July 2025 - April 2026

- Introduce the **Sentinel** Challenge to evaluate the embodied agent’s *Cooperative Spatial Intelligence*, the capability to cooperate effectively under dynamic spatial constraints.
- Propose **CoSaR**, an embodied cooperative spatial reasoning and planning method featuring a dynamic spatial memory that enables agents to share information, reason about spatial dynamics, and replan collaboratively.
- Experiments across 14 city-scale scenes with 3–5 agents show that our method effectively leverages spatial information and dynamic communication, outperforming strong baselines across multiple metrics.

Embodied AI Simulator | IBM-MIT WATSON AI LAB

March 2024 - Sept. 2025

- Scalable 3D scene creation, which supports the generation of expansive outdoor and indoor environments at any location and scale, addressing the lack of large-scale, interactive, open-world scenes for embodied AI research
- Collect data from existing geospatial data API. Refine bad building geometry with Pyblend.
- Refine distorted scene texture using diffusion model and introduce Gigapixel model to achieve photorealistic scene texture.
- Testing agents’ behavior in the Campaign task in the simulator, where candidates prompt LLMs to decide how to convince a voter to his or her side.

Large language models’ role-play behavior explainability | Zhejiang Univ.

March 2025 - June 2025

- Explore the impact of system prompt in LLMs role-play behavior
- Use sparse probing to compare the neuron activation levels of the model on two different types of role-play dataset.

Medical Image Referring Segmentation Based on Deep Learning | Zhejiang Univ.

May 2023 - April 2024

- Introduce a novel task, Medical Image Referring Segmentation, driven by clinical demands.
- Integrates a novel attention mechanism to enhance object localization by tightly interacting scale-aware visual knowledge and linguistic cues.
- Introduce a full-scale decoder for global modeling of multi-modal features, improving boundary prediction in segmentation.
- Develop the RefHL-Seg dataset for training and validating the MIRS task.

Selected Awards & Honors

International Collegiate Programming Contest (ACM-ICPC), EC-Final Gold Medal	March 2023
ACM-ICPC Jinan Regional Contests Gold Medals	2021, 2023
ACM-ICPC Hefei Regional Contests Gold Medals	2022, 2023
ACM-ICPC Nanjing Regional Contest Gold Medal	2022
China Collegiate Programming Contest, Final Gold Medal (Third place)	May 2023
China Collegiate Programming Contest, Regional Contest Gold Medals × 4	2021, 2022, 2023
Academic Excellence Award of Zhejiang University	2022, 2023
Student Innovation and Entrepreneurship Award of Zhejiang University	2022, 2023
China's National Olympiad in Informatics Silver Medal	August 2020

Skills and Interests

- Programming:** Python, C, C++, SQL
- Developer Tools:** VS Code, Jupyter, Blender
- Technologies/Frameworks:** Linux, GitHub
- Interests:** Birding, Nature Photography