Lingjun Mao

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EDUCATION

University of California, San Diego — **California, USA**
Ph.D. in Data Science — *Sep 2025 – Present*

Tongji University — **Shanghai, China**
B.Eng. in Software Engineering — *Sep 2020 – Jun 2025*
GPA: 4.0/4.0

RESEARCH INTERESTS

- **Embodied AI:** Robot Foundation Models, Embodied Agents, World Simulation
- **Vision and Language:** Computer Vision, Multimodal Learning, Natural Language Processing

PUBLICATIONS

1. **Lingjun Mao**, Jinglin Cao, Lukun He, …, Kun Zhou, Biwei Huang. RobotAgentBench: Towards Open-world Robot Autonomy. Submitted to CVPR 2027. [website] [paper]
2. **Lingjun Mao**, Jiawei Ren, Kun Zhou, Jixuan Chen, Ziqiao Ma, Lianhui Qin. DeliveryBench: Can Agents Earn Profit in Real World?. COLM, 2026. [website] [paper]
3. **Lingjun Mao**, Zineng Tang, Alane Suhr. Evaluating Model Perception of Color Illusions in Photorealistic Scenes. CVPR, 2025. [website] [paper]
4. Hejie Cui*, **Lingjun Mao***, Xin Liang, Jieyu Zhang, Hui Ren, Quanzheng Li, Xiang Li, Carl Yang. Biomedical Visual Instruction Tuning with Clinician Preference Alignment. NeurIPS, 2024. [website] [paper]
5. **Lingjun Mao**, Rodolfo Corona, Xin Liang, Wenhao Yan, Zineng Tang†. Images are Worth Variable Length of Representations. arXiv preprint, 2025. [website] [paper]
6. Junwei Su*, **Lingjun Mao***, Da Zheng, Chuan Wu. BG-HGNN: Toward Efficient Learning for Complex Heterogeneous Graphs. TMLR, 2026. [paper]

PROJECT EXPERIENCE

CRIS-0: Causal Robotic Intelligence System [website]
Student Project Leader, Aether AI — *2026*

- Enabled a physical robot to autonomously complete diverse long-horizon household tasks, interpret underspecified requests using user preferences, and adapt during execution to displaced objects, lighting changes, and human intervention.
- Built an agent that automatically turns a few teleoperated demonstrations into a task graph with verifiable stages. A unified tool interface lets the agent coordinate motion planning, learned policies, navigation, and a causal world model, then use execution feedback to revisit affected stages and repair failed tools for reuse.

Open Astra: Toward an Open-Source VLM Training Pipeline for Robotics
Student Project Leader, Aether AI — *2026 – Present*

- Built a dataset of spatial reasoning chain-of-thought traces for supervised fine-tuning of Qwen 3.8 27B, followed by reinforcement learning to improve 2D visual grounding, 3D manipulation, and the model's ability to revise and retry actions using execution feedback.

- Outperformed GPT-6 Astra on Robodojo at 1/15 of its inference latency.

CausalWAM: A Causal World Action Model for Generalizable Robot Control [website]
Research Contributor, Aether AI *2026*

- Contributed to large-scale world-action model training using 15.8K hours of curated multi-embodiment data (from 19.5K raw hours).
- The model extends a 16B CausalWM backbone with an Action Expert, using three-stage pretraining from single-/multi-view video modeling to joint video-action learning.

RESEARCH AND INTERNSHIP EXPERIENCE

Aether AI
Robotics Group Lead *Jun 2026 – Present*

- Lead the group's research on real-world robot autonomy, including the development of CRIS-0 and the evaluation of robot agents through RobotAgentBench.

Berkeley NLP Group, UC Berkeley
Visiting Researcher, advised by Prof. Alane Suhr *Jan 2024 – Nov 2024*

- Studied visual perception and language grounding in VLMs through color illusions in photorealistic scenes (CVPR 2025) and communication across viewpoints (EMNLP 2024).

Department of Computer Science, The University of Hong Kong
Visiting Researcher, advised by Prof. Chuan Wu *Mar 2023 – Jan 2024*

- Co-developed BG-HGNN for efficient learning on heterogeneous graphs (TMLR 2026, co-first author).

MIT Media Lab–Tongji University Joint City Science Lab, Shanghai
Research Intern, supervised by Ryan Zhang and Yang Liu *Sep 2022 – Dec 2023*

- Used multi-agent RL to model competing stakeholder priorities in urban planning and co-developed Green Commute, a blockchain-based app.

CAMPUS EXPERIENCE

Tongji University Apple Club (TAC)
Current club president. Organize school-enterprise joint activities. *May 2022 – Aug 2025*

Tongji University Student Union
Head of the Academic Department. Organize expert lectures. *Jun 2020 – Aug 2023*

SELECTED HONORS AND AWARDS

- Jacobs School Fellowship, UC San Diego, 2025–2026
- National Second Prize, China Collegiate Computing Contest (CCCC), 2023
- First-Class Scholarship, Tongji University, 2022, 2023, and 2024
- Outstanding Student Award (Top 5%), Tongji University, 2022, 2023, and 2024
- Third Prize, Asia Pacific Cup Mathematical Modeling Competition, 2022/2023
- Finalist, ETH Beijing Hackathon, 2023
- National-Level Innovation and Entrepreneurship Project Award, 2022