

Ziqiao Ma (Martin Z. Ma)

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Overview and Interests

I lead post-training evaluation at Thinking Machines. I am interested in (i) predictive scaling; (ii) continual learning with minimal supervision, no verifiable reward, no turn-taking, and no train-test boundary; (iii) multimodal learning from natural cross-modal correspondence.

Education and Employment

Thinking Machines Lab Member of Technical Staff	2026-Now
University of Michigan Ph.D., Computer Science and Engineering	2021-2026
Shanghai Jiao Tong University B.S., Electrical and Computer Engineering	2017-2021

Selected Awards & Honors

Richard and Eleanor Towner Prize for Outstanding Ph.D. Research	2026
Weinberg Cognitive Science Fellowship	2024
Outstanding Paper Award, ACL 2023	2023
Champion, Amazon Alexa Simbot Challenge	2023
China National Scholarship	2018
John Wu & Jane Sun Excellence Scholarship	2017

Publications and Releases [\[G\]](#)

* → equal contribution

† → correspondence

Products and Model Releases

- [M1] Thinking Machines. “Introducing Inkling-Small”. In: *Thinking Machines Lab: News*. 2026. URL: <https://thinkingmachines.ai/news/inkling-small/>.
- [M2] Thinking Machines. “Inkling: Our Open-Weights Model”. In: *Thinking Machines Lab: News*. 2026. URL: <https://thinkingmachines.ai/news/introducing-inkling/>.
- [M3] Thinking Machines. “Interaction Models: A Scalable Approach to Human-AI Collaboration”. In: *Thinking Machines Lab: Connectionism*. 2026. URL: <https://thinkingmachines.ai/blog/interaction-models/>.

Conference Tutorials

- [T1] Ziqiao Ma, Michael Saxon, and Xiang Yue. “The Science of Benchmarking: What’s Measured, What’s Missed, and What’s Next.” In: *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*. Dec. 2025.

- [T2] Freda Shi, **Ziqiao Ma**, Jiayuan Mao, Parisa Kordjamshidi, and Joyce Chai. “Learning Language through Grounding.” In: *Proceedings of the 2025 Annual Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL)*. Apr. 2025.

Proceeding Editorship

- [E1] **Ziqiao Ma**, Emmy Liu, Tyler A. Chang, Abdellah Fourtassi, Alex Warstadt, Michael Hahn, Weiwei Sun, and Freda Shi, eds. *Proceedings of the 1st Workshop on Computational Developmental Linguistics (CDL @ ACL 2026)*. San Diego, United States: Association for Computational Linguistics, July 2026.
- [E2] Hua Shen, **Ziqiao Ma**, Reshmi Ghosh, Tiffany Kneare, Michael Xieyang Liu, Tongshuang Wu, Andrés Monroy-Hernández, Diyi Yang, Antoine Bosselut, Yun Huang, Furong Huang, Tanu Mitra, Joyce Chai, Marti Hearst, Dawn Song, and Yang Li, eds. *Proceedings of the 1st Workshop on Bidirectional Human-AI Alignment (Bi-Align @ ICLR 2025)*. Singapore: Proceedings of Machine Learning Research, Apr. 2025.
- [E3] Parisa Kordjamshidi, Xin Eric Wang, Yue Zhang, **Ziqiao Ma**, and Mert Inan, eds. *Proceedings of the 4th Workshop on Spatial Language Understanding and Grounded Communication for Robotics (SpLU-RoboNLP @ ACL 2024)*. Bangkok, Thailand: Association for Computational Linguistics, Aug. 2024.

Selected Papers

- [P1] Sihan Xu, **Ziqiao Ma**, Wenhao Chai, Xuweiyi Chen, Weiyang Jin, Joyce Chai, Saining Xie, and Stella X Yu. “Next-Embedding Prediction Makes Strong Vision Learners”. In: *Proceedings of the 1st Workshop On Visual General Intelligence (VGI) @ CVPR 2026*. **Invited Poster**. 2026.
- [P2] **Ziqiao Ma**, Xueyang Yu, Haoyu Zhen, Yuncong Yang, Joyce Chai, and Chuang Gan. “Fast Spatial Memory with Elastic Test-Time Training”. In: *Proceedings of the European Conference on Computer Vision (ECCV)*. 2026.
- [P3] **Ziqiao Ma***, Shuyu Wu*, Xiaoxi Luo*, Yidong Huang, Josue Torres-Fonseca, Freda Shi, and Joyce Chai. “The Mechanistic Emergence of Symbol Grounding in Language Models”. In: *Proceedings of the International Conference on Machine Learning (ICML)*. 2026.
- [P4] **Ziqiao Ma**, Xuweiyi Chen, Shoubin Yu, Sai Bi, Kai Zhang, Ziwen Chen, Jianing Yang, Sihan Xu, Zexiang Xu, Kalyan Sunkavalli, Mohit Bansal, Joyce Chai, and Hao Tan. “4D-LRM: Large Space-Time Reconstruction Model From and To Any View at Any Time”. In: *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*. Vol. 38. 2025.
- [P5] Shoubin Yu*, Difan Liu*, **Ziqiao Ma***, Yicong Hong, Yang Zhou, Hao Tan, and Mohit Bansal. “VEGGIE: Reasoning and Editing Video Concepts with Generative Grounding”. In: *Proceedings of the International Conference on Computer Vision (ICCV)*. 2025.
- [P6] **Ziqiao Ma***, Zekun Wang*, and Joyce Chai. “Babysit A Language Model From Scratch: Interactive Language Learning by Trials and Demonstrations”. In: *Proceedings of the 2025 Annual Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL)*. **Oral** of the Large Language Models and Cognition (LLM-Cog) Workshop at ICML 2024. 2025, pp. 991–1010.

- [P7] Zheyuan Zhang*, Fengyuan Hu*, Jayjun Lee*, Freda Shi, Parisa Kordjamshidi, Joyce Chai, and **Ziqiao Ma**[†]. “Do Vision-Language Models Represent Space and How? Evaluating Spatial Frame of Reference under Ambiguities”. In: *Proceedings of the Thirteenth International Conference on Learning Representations (ICLR)*. **Oral**. 2025.
- [P8] Sihan Xu, Yidong Huang, Jiayi Pan, **Ziqiao Ma**[†], and Joyce Chai. “Inversion-Free Image Editing with Language-Guided Diffusion Models”. In: *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2024, pp. 9452–9461.
- [P9] Yichi Zhang, **Ziqiao Ma**, Xiaofeng Gao, Suhaila Shakiah, Qiaozi Gao, and Joyce Chai. “Groundhog: Grounding large language models to holistic segmentation”. In: *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2024, pp. 14227–14238.
- [P10] **Ziqiao Ma**^{*}, Jiayi Pan^{*}, and Joyce Chai. “World-to-Words: Grounded Open Vocabulary Acquisition through Fast Mapping in Vision-Language Models”. In: *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (ACL), Volume 1: Long Papers*. **Outstanding Paper Award**. 2023, pp. 524–544.

Recent Invited Talks

- [PR1] **Ziqiao Ma**. *Omni-Modality from First Principles: Why We Bet in Autoregression in Latent Space*. The 38th MLNLP Workshop on Latent Reasoning. Jan. 2026.
- [PR2] **Ziqiao Ma**. *Grounding Lexical Semantics in the Era of Vision-Language Models*. Theoretical and Computational Neuroscience Journal Club, Johns Hopkins University. Apr. 2025.
- [PR3] **Ziqiao Ma**. *Language Grounding to the Visual World and Human Interactions: How Far Are We from Embodied Dialogue Agents?* University of Washington. Dec. 2024.

Recent Teaching

FA 2024/22	Graduate Student Instructor, Natural Language Processing (UMich CSE 595) Outstanding Graduate Student Instructor Award
WN 2021	Instructional Aide, Intro to Artificial Intelligence (UMich EECS 492)
SU 2020	Teaching Assistant, Intro to Artificial Intelligence (SJTU VE 492)
SU 2020	Teaching Assistant, Programming and Data Structure (SJTU VE 280)

Academic Service

- **Workshop Co-Organizer**, Workshop and Challenge on Embodied Reasoning for Robotic Manipulation (ERA @ CVPR 2026).
- **Workshop Co-Organizer**, Workshop on Computational Developmental Linguistics (CDL @ ACL 2026).
- **Workshop Co-Organizer**, Workshop on Space in Vision, Language, and Embodied AI (SpaVLE @ NeurIPS 2025).
- **Workshop Co-Organizer**, Workshop on Bridging Language, Agent, and World Models for Reasoning and Planning (LAW @ NeurIPS 2025).
- **Workshop Co-Organizer**, Workshop on Bidirectional Human-AI Alignment (Bi-Align @ ICLR 2025).
- **Workshop Co-Organizer**, The 4th International Combined Workshop on Spatial Language Understanding and Grounded Communication for Robotics (SpLU-RoboNLP @ ACL 2024).