

LIU, RUIZHE

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🔗 https://scholar.google.com/citations?user=cHY_UJ8AAAAJ | 🌐 <https://github.com/zrllrz>

Date of Birth: January 20th, 2002 | **Gender:** Male

Citizenship: People's Republic of China | **Current Location:** Hong Kong SAR

PROFILE

PhD candidate specializing in machine learning and robotics, with focus on enabling robots to learn complex manipulation skills from demonstrations. Research interests include concept discovery, hierarchical learning, and robust manipulation in unstructured environments. Strong publication record at top-tier AI/ML conferences (ICLR, NeurIPS, CoRL, etc.). For more details, please visit <https://zrllrz.github.io>.

EDUCATION & EXPERIENCE

PhD in Data Science | 2024 - 2028 (Expected)

HKU Musketeers Foundation Institute of Data Science, The University of Hong Kong, Hong Kong SAR

- Supervisor: Prof. Yanchao Yang
- Current GPA: 3.97/4.00
- Funding: Hong Kong PhD Fellowship Scheme

Bachelor of Science in Information and Computing Science | 2020 - 2024

Peking University, Beijing, China

- GPA: 3.73/4.00

Research Assistant | June 2023 - November 2023

HKU Musketeers Foundation Institute of Data Science, The University of Hong Kong, Hong Kong SAR

Supervisor: Prof. Yanchao Yang

- Developed machine learning algorithms for robotic manipulation tasks.
- Designed methods for robots to learn task-relevant concepts from unlabeled demonstrations.
- Created frameworks for discovering and utilizing manipulation primitives.

PUBLICATIONS

Liu, Ruizhe, Qian Luo, and Yanchao Yang (2024). "InfoCon: Concept Discovery with Generative and Discriminative Informativeness". In: *The Twelfth International Conference on Learning Representations*. URL: <https://openreview.net/forum?id=g6eCbercEc>.

Liu, Ruizhe, Pei Zhou, Qian Luo, Li Sun, Jun CEN, Yibing Song, and Yanchao Yang (2025). "*HiMaCon*: Discovering Hierarchical Manipulation Concepts from Unlabeled Multi-Modal Data". In: *The Thirty-ninth Annual Conference on Neural Information Processing Systems*. URL: <https://openreview.net/forum?id=2aIoEG2Hwz>.

Sun, Li, Jiefeng Wu, Feng Chen, Ruizhe Liu, and Yanchao Yang (2025). "HyperTASR: Hypernetwork-Driven Task-Aware Scene Representations for Robust Manipulation". In: *9th Annual Conference on Robot Learning*. URL: <https://openreview.net/forum?id=BcJlmjF1vV>.

Zhou, Pei, Ruizhe Liu, Qian Luo, Fan Wang, Yibing Song, and Yanchao Yang (2025). "AutoCGP: Closed-Loop Concept-Guided Policies from Unlabeled Demonstrations". In: *The Thirteenth International Conference on Learning Representations*. URL: <https://openreview.net/forum?id=9ehJCZz4aM>.

Luo, Qian, Ruizhe Liu, Pei Zhou, Xunzhe Zhou, and Yanchao Yang (2026). *Geometric Entropy: When Trajectory Diversity Helps and Hurts in Imitation Learning*. arXiv: 2606.20871 [cs.R0]. URL: <https://arxiv.org/abs/2606.20871>.

Zhang, Yunchao, Yijia Weng, Ruizhe Liu, Ming Hu, Leonidas Guibas, and Yanchao Yang (2026). “Geo-MoLa: Geometry-Aware Motion Latents for Learning Robust Manipulation Policies”. In: *Forty-third International Conference on Machine Learning*. URL: <https://openreview.net/forum?id=j2Ivokp7vs>.

CONFERENCE PARTICIPATION

ICML 2026 (Forty-Third International Conference on Machine Learning)
Seoul, South Korea | July 6th - 11th, 2026
Poster Presentation

NeurIPS 2025 (Thirty-ninth Annual Conference on Neural Information Processing Systems)
San Diego, California, USA | December 2nd - December 7th, 2025
Poster Presentation

ICLR 2025 (Thirteenth International Conference on Learning Representations)
Singapore | April 24th – April 28th, 2025
Spotlight Poster Presentation

ICLR 2024 (Twelfth International Conference on Learning Representations)
Vienna, Austria | May 7th - May 11th, 2025
Poster Presentation

AWARDS & HONORS

2024 HKU Presidential PhD Scholar
2024 Hong Kong PhD Fellowship
2022 JiuKun Scholarship
2021 Third-class Scholarship of Peking University
2019 First-class Award of National High School Mathematics Joint Competition
2019 First-class Award of Peking University Summer Campus of Mathematics Science

SKILLS

Machine Learning & AI	PyTorch, JAX, TensorFlow, etc.
Programming Languages	Python, C/C++, CUDA, Arduino, etc.
Development Tools	Git/GitHub, Docker, Weights & Biases, etc.