

Siyuan Zhou

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EDUCATION

Hong Kong University of Science and Technology, Hong Kong, China
PhD in Computer Science and Engineering

09/2022 — Present

Peking University, Beijing, China
Bachelor of Science, Major in Computer Science

09/2017 — 07/2022

PUBLICATIONS

- **Siyuan Zhou**, Yilun Du, Jiaben Chen, Yandong Li, Dit-Yan Yeung, Chuang Gan. RoboDreamer: Learning Compositional World Models for Robot Imagination. ICML, 2024.
- **Siyuan Zhou**, Yilun Du, Shun Zhang, Mengdi Xu, Yikang Shen, Wei Xiao, Dit-Yan Yeung, Chuang Gan. Adaptive Online Replanning with Diffusion Models. Neurips, 2023.
- Kefan Su, **Siyuan Zhou**, Jiechuan Jiang, Chuang Gan, Xiangjun Wang, Zongqing Lu. Multi-Agent Alternate Q-Learning. AAMAS, 2024.
- Chuang Gan, **Siyuan Zhou**, Jeremy Schwartz, Seth Alter, Abhishek Bhandwaldar, Dan Gutfreund, Daniel LK Yamins, James J DiCarlo, Josh McDermott, Antonio Torralba, Joshua B Tenenbaum. The ThreeDWorld Transport Challenge: A Visually Guided Task-and-Motion Planning Benchmark for Physically Realistic Embodied AI. ICRA, 2022.
- Chuang Gan, Yi Gu, **Siyuan Zhou**, Jeremy Schwartz, Seth Alter, James Traer, Dan Gutfreund, Joshua B Tenenbaum, Josh H McDermott, Antonio Torralba. Finding fallen objects via asynchronous audio-visual integration. CVPR, 2022.
- Yuchen Lu, Yikang Shen, **Siyuan Zhou**, Aaron Courville, Joshua B Tenenbaum, Chuang Gan. Learning Task Decomposition with Ordered Memory Policy Network. ICLR, 2021.
- Zhiao Huang, Yuanming Hu, Tao Du, **Siyuan Zhou**, Hao Su, Joshua B Tenenbaum, Chuang Gan. PlasticineLab: A Soft-Body Manipulation Benchmark with Differentiable Physics. ICLR, 2021.

RESEARCH EXPERIENCE

MIT-IBM Watson AI Lab

03/2020 — Present

Research Intern, Supervisor: Chuang Gan

- Video Diffusion Models for Robot Planning 06/2023 — 03/2023
 - Implemented and Trained video diffusion models on RT-1 Dataset and RLBench.
 - Proposed compositional approach to enhance multi-modal generation and zero-shot generalization.
 - One paper has been accepted by ICML, 2024 (1st author).
- Replanning with Diffusion Models 12/2022 — 05/2023
 - Proposed an approach that can adaptively replan based on the inherent properties of diffusion models.
 - Conducted several experiments on the problems of Long-horizon Planning, Stochastic Environment and Robotic Control.
 - One paper has been accepted by Neurips, 2023 (1st author).
- Transport Challenge 10/2020 — 02/2021
 - Introduced a visually-guided and physics-driven task-and-motion planning benchmark and tested all high-level APIs, and helped to fix and wrap a gym environment.
 - Implemented a transformation from the depth image to the point cloud and three planning methods including pure planning and hierarchy reinforcement learning.
 - One paper has been accepted by ICRA, 2022 (2nd author).

Tencent Robotics X Lab

08/2024 — Present

Research Intern, Supervisor: Peihao Chen

WXG, Tencent

09/2021 — 12/2021

Research Intern, Supervisor: Yikang Shen

AWARDS

2nd prize in 17th, 18th PKU Cooperative Programming Contest
33th China's National Olympiad in Informatics (NOI) Silver Medal

05/2018, 05/2019
2016