

# Puhao Li

## Education

- 2023–Present **Tsinghua University (THU)**, *Beijing, China*  
Ph.D. Student, Department of Automation  
○ Advisor: Prof. Song-Chun Zhu
- 2019–2023 **Tsinghua University (THU)**, *Beijing, China*  
Undergraduate, Department of Automation

## Research Interests

**Computer Vision:** 3D Scene Understanding & Human-Scene Interaction  
**Robotics:** Dexterous Grasping & Manipulation & Planning  
**Long-term Goal:** is to create an intelligent system that can naturally interact with a novel environment via scene understanding, reasoning, planning and manipulation.

## Research Experience

- Sep 2021 **Beijing Institution for General Artificial Intelligence (BIGAI)**, *Beijing, China*  
–Present Research Intern, General Vision Lab  
○ Advisor: Dr. Tengyu Liu & Dr. Siyuan Huang

## Publications

- arXiv **PhyRecon: Physically Plausible Neural Scene Reconstruction**  
Junfeng Ni\*, Yixin Chen\*, Bohan Jing, Nan Jiang, Bing Wang, Bo Dai, **Puhao Li**, Yixin Zhu, Song-Chun Zhu, Siyuan Huang  
Preprint, under review
- IROS 2024 **Ag2Manip: Learning Novel Manipulation Skills with Agent-Agnostic Visual and Action Representations**  
**Puhao Li\***, Tengyu Liu\*, Muzhi Han, Haoran Geng, Shu Wang, Yixin Zhu, Song-Chun Zhu, Siyuan Huang  
*IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2024
- RA-L **Grasp Multiple Objects with One Hand**  
Yuyang Li, Bo Liu, Yiran Geng, **Puhao Li**, Yaodong Yang, Yixin Zhu, Tengyu Liu, Siyuan Huang  
*IEEE Robotics and Automation Letters*  
Presented at *IROS 2024 (Oral Presentation)*
- CVPR 2024 **Move as You Say, Interact as You Can: Language-guided Human Motion Generation with Scene Affordance**  
Zan Wang, Yixin Chen, Baoxiong Jia, **Puhao Li**, Jinlu Zhang, Jingze Zhang, Tengyu Liu, Yixin Zhu, Wei Liang, Siyuan Huang  
*IEEE Conference on Computer Vision and Pattern Recognition*, 2024
- ICML 2024 **An Embodied Generalist Agent in 3D World**  
Jiangyong Huang\*, Silong Yong\*, Xiaojian Ma\*, Xiongkun Linghu\*, **Puhao Li**, Yan Wang, Qing Li, Song-Chun Zhu, Baoxiong Jia, Siyuan Huang  
*International Conference on Machine Learning*, 2024

- CVPR 2023 **Diffusion-based Generation, Optimization, and Planning in 3D Scenes**  
Siyuan Huang\*, Zan Wang\*, **Puhao Li**, Baoxiong Jia, Tengyu Liu, Yixin Zhu, Wei Liang, Song-Chun Zhu  
*IEEE Conference on Computer Vision and Pattern Recognition, 2023*
- ICRA 2023 **GenDexGrasp: Generalizable Dexterous Grasping**  
**Puhao Li\***, Tengyu Liu\*, Yuyang Li, Yiran Geng, Yixin Zhu, Yaodong Yang, Siyuan Huang  
*IEEE International Conference on Robotics and Automation, 2023*
- ICRA 2023 **DexGraspNet: A Large-Scale Robotic Dexterous Grasp Dataset for General Objects Based on Simulation**  
**Oral** Ruicheng Wang\*, Jialiang Zhang\*, Jiayi Chen, Yinzhen Xu, **Puhao Li**, Tengyu Liu, He Wang  
*IEEE International Conference on Robotics and Automation, 2023*  
**Outstanding Manipulation Paper Finalist**

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## Professional Activities

### Conference and Journal Reviewer

*IEEE Robotics and Automation Letters (RA-L)*

*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*

*European Conference on Computer Vision (ECCV)*

### Open Source Contribution

**Simulately** (simulately.wiki), earned 200+ stars in Github

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## Awards and Scholarships

- 2023 Outstanding Graduation Thesis, Beijing, China
- 2023 Outstanding Graduation Thesis, Tsinghua University
- 2022 Scholarship of Excellent Academic Performance, Tsinghua University
- 2021 Scholarship of Social Work, Tsinghua University