Xingyu Lin

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Education

2017–present **Ph.D. in Robotics**, *Carnegie Mellon University*.
Advisor: David Held

2013–2017 **B.S. in Computer Science**, *Peking University*.
Summa Cum Laude

Experiences

Academic

2017–present **Graduate Student Researcher**, *Robot Perceiving and Doing (RPAD) Lab, CMU*.
Advisor: David Held
Research Area: Robotic Manipulation of Deformable Objects and Reinforcement Learning

2016–2017 **Undergraduate Student Researcher**, *Center for the Neural Basis of Cognition, CMU*.
Advisor: Tai Sing Lee
Research Area: Computer Vision and Computational Neuroscience

Professional

2021 Summer **Research Intern**, *MIT-IBM Research Lab*.
Advisors: Dr. Chuang Gan
Worked on combining planning and trajectory optimization applied to deformable object manipulation tasks using tools

2019 Summer **Research Intern**, *NVIDIA Seattle Robotics Lab*.
Advisors: Prof. Dieter Fox, Dr. Arsalan Mousavian, Dr. Clemens Eppner
Worked on reactive robotic grasping

2016 Spring **Research Intern**, *Microsoft Research Asia (MSRA)*.
Advisor: Dr. Zhiwei Li
Worked on 3D face tracking

Publications and Preprint (*denotes equal contribution)

[1] **Xingyu Lin**, Zhiao Huang, Yunzhu Li, Joshua B. Tenenbaum, David Held, and Chuang Gan. Diffskill: Skill abstraction from differentiable physics for deformable object manipulations with tools. *International Conference on Learning Representation (ICLR)*, 2022.

[2] Narasimhan Gautham, Zhang Kai, Eisner Ben, **Xingyu, Lin**, and Held David. Transparent liquid segmentation for robotic pouring. In *International Conference on Robotics and Automation (ICRA)*, 2022.

[3] **Xingyu Lin***, Yufei Wang*, Zixuan Hunag, and David Held. Learning visible connectivity dynamics for cloth smoothing. *Conference on Robot Learning (CoRL)*, 2021.

[4] **Xingyu Lin**, Yufei Wang, Jake Olkin, and David Held. Softgym: Benchmarking deep reinforcement learning for deformable object manipulation. *Conference on Robot Learning (CoRL)*, 2020.

[5] Yufei Wang*, Narayan Gautham*, **Xingyu Lin**, Brian Okorn, and David Held. Visual self-supervised reinforcement learning with object reasoning. *Conference on Robot Learning (CoRL)*, 2020.

[6] **Xingyu Lin***, Harjatin Baweja*, George Kantor, and David Held. Adaptive auxiliary task weighting for reinforcement learning. In *Advances in Neural Information Processing Systems*, pages 4772–4783. NeurIPS, 2019.

[7] **Xingyu Lin**, Pengsheng Guo, Carlos Florensa, and David Held. Adaptive variance for changing sparse-reward environments. *2019 International Conference on Robotics and Automation (ICRA)*, pages 3210–3216, 2019.

[8] **Xingyu Lin**, Harjatin Singh Baweja, and David Held. Reinforcement learning without ground-truth state. *Workshop on Multi-Task and Lifelong Reinforcement Learning, ICML*, 2019.

[9] **Xingyu Lin**, Hao Wang, Zhihao Li, Yimeng Zhang, Alan Yuille, and Tai Sing Lee. Transfer of view-manifold learning to similarity perception of novel objects. *Int. Conf. on Learning Representation (ICLR)*, 2017.

[10] **Xingyu Lin**, Mingxuan Chai, Sheng Li, and Guoping Wang. Time-varying light motion in single convergence. *Computer Animation and Virtual Worlds*, 2018.

[11] Hao Wang, **Xingyu Lin**, Yimeng Zhang, and Tai Sing Lee. Learning robust object recognition using composed scenes from generative models. In *Conference on Computer and Robot Vision (CRV)*, pages 232–239. IEEE, 2017.

Honors and Awards

2022 DAAD AInet Fellowship in Robotics and AI

2016 Excellence Award, the Stars of Tomorrow Internship Program, Microsoft Research

2016 Founder Scholarship, Peking University

2015 Scholarship of Guanghua, Peking University

2015 First Award in 12^{th} Mathematical Modelling Contest of Peking University (ranked 1^{st} out of 60 teams)

2014 Scholarship of Yitianmingsheng, Peking University

2014 First Award in 11^{th} Mathematical Modelling Contest of Peking University (ranked 1^{st} out of 63 teams)

2012 Silver Medal in China National Olympiad in Informatics

Invited Talks

2022 Stanford University

2022 Massachusetts Institute of Technology

2022 UC Berkeley

2021 RSS Workshop: Deformable Object Simulation in Robotics

Service

2017–present Reviewer for NeurIPS, ICLR, ICML, RSS, ICRA, CoRL, IEEE RA-L, AURO

Teaching

Spring 2021 **Teaching Assistant**, *Statistical Techniques in Robotics, 16831, CMU*.
Instructor: Prof. Kris Kitani

Fall 2019 **Teaching Assistant**, *Deep Reinforcement Learning and Control, 10703, CMU*.
Instructor: Prof. Katerina Fragkiadaki

Spring 2016 **Teaching Assistant**, *Algorithm Analysis and Design, PKU*.
Instructor: Prof. Yizhou Wang

Fall 2015 **Teaching Assistant**, *Introduction to Computer System, PKU*.
Instructor: Prof. Yingfei Xiong

Undergrad and MS Advising

Yufei Wang (Now PhD at CMU), Tiancheng Jin (Now PhD at USC), Pengsheng Guo (Now at Apple), Harjatin Baweja (Now at Amazon), Gautham Narasimhan, Zixuan Huang, Carl Qi