

Education

University of California, San Diego

M.S. in Computer Science and Engineering

Advisor: *Prof. Xiaolong Wang*

CA, USA

Sep 2025–Present

Peking University

B.S. in Computer Science and Technology

GPA: 3.75/4.0 Rank: 7/121

Advisor: *Prof. Libin Liu*

Beijing, China

Sep 2021–Jul 2025

Research Interests

My research connects three problems: capturing dense human-object motion, learning dexterous hand manipulation from these motions, and training policies that generalize in the real world.

Research Experience

University of California, San Diego

Robot learning | Advisor: Prof. Xiaolong Wang

2025–Present

ConTrack

First author | ECCV 2026

- Formulated hand-object tracking as constrained RL, using an online dual controller to preserve object-motion accuracy while adapting hand motion and contact to the robot’s kinematics.
- Designed a reset library of policy-reachable states for long-horizon tracking. Evaluations span GRAB, ARCTIC, and DexterHand, with generated trajectories executed on a bimanual xArm7–XHand platform.

XL-VLA / CrossLatent

Co-first author | CVPR 2026 Highlight

- Designed XL-VLA’s shared latent action space across four dexterous hands. The representation learns from randomly sampled joint configurations and differentiable kinematic constraints, without demonstration data or paired cross-hand trajectories.

FACT

Co-first author | CoRL 2026

- Contributed to experimental infrastructure, data collection, and baseline training for failure-aware world-action models.

Peking University

Visual Computing and Learning Lab | Advisor: Prof. Libin Liu

Character animation and physics simulation

2023–2025

DexterCap

Co-first author | Eurographics 2026

- Designed the automated hand-object reconstruction pipeline behind DexterHand, combining learned marker identification, multi-view triangulation, and motion fitting for hands and rigid or articulated objects.

Stanford University

Research Intern | The Movement Lab and Stanford Vision and Learning Lab

Advisors: Prof. Karen Liu and Prof. Jiajun Wu

Jun–Sep 2024

Motion-Guided Interior Design

- Optimized indoor layouts with CMA-ES, evaluating human motion in each layout through MuJoCo inverse dynamics.

Publications

FACT: Failure-Aware Causal Training for World-Action Models

Quanguan Peng*, Yutong Liang*, Rui Yan, Nicklas Hansen, Xiaolong Wang
CoRL, 2026

ConTrack: Constrained Hand Motion Tracking with Adaptive Trade-off Control

Yutong Liang, Quanguan Peng, Ri-Zhao Qiu, Xiaolong Wang
ECCV, 2026

XL-VLA: Cross-Hand Latent Representation for Vision-Language-Action Models

Guangqi Jiang*, Yutong Liang*, Jianglong Ye, Jia-Yang Huang, Changwei Jing, Rocky Duan, Pieter Abbeel, Xiaolong Wang[†], Xueyan Zou[†]
CVPR (Highlight), 2026

DexterCap: An Affordable and Automated System for Capturing Dexterous Hand-Object Manipulation

Yutong Liang*, Shiyi Xu*, Yulong Zhang*, Bowen Zhan, He Zhang, Libin Liu[†]
Eurographics, 2026

GSWorld: Closed-Loop Photo-Realistic Simulation Suite for Robotic Manipulation

Guangqi Jiang*, Haoran Chang*, Ri-Zhao Qiu, Yutong Liang, Mazeyu Ji, Jiyue Zhu, Zhao Dong, Xueyan Zou, Xiaolong Wang[†]
ICRA, 2026

ROBOVERSE: Towards a Unified Platform, Dataset and Benchmark for Scalable and Generalizable Robot Learning

RoboVerse Team
RSS, 2025

SimiSketch: Efficiently Estimating Similarity of Streaming Multisets

Fenghao Dong, Yang He*, Yutong Liang*, Zirui Liu, Yuhan Wu, Peiqing Chen, and Tong Yang[†]
arXiv preprint, 2024

*Equal contribution. [†]Corresponding author.

Honors and Awards

PKU Scholarship (Top 5%); PKU Outstanding Research Award	2024
AEON Scholarship (Top 10%); PKU Merit Student	2023
Shenzhen Stock Exchange Scholarship (Top 20%); PKU Outstanding Academic Award	2022
PKU New Student Scholarship	2021

Academic Service

Reviewer: CoRL 2026; ICRA Workshop on Manipulation Robustness 2026; IEEE RA-L 2026.

Technical Skills

Python, C++, PyTorch, Isaac Lab, MuJoCo.