



# Yiming Bao

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## EDUCATION

- **Undergraduate**

Department of Computer Science and Technology, Tsinghua University

GPA: 3.78/4.0

2023 - Present

Beijing, China

- **Relevant Courses**

**Embodied AI/Robotics:** Embodied Artificial Intelligence (\*), Intelligent system and Robotics (\*)

**ML/AI:** Introduction to Artificial Intelligence , Artificial Neural Network (A), CS285: Deep Reinforcement Learning(\*), 6.S184: Generative AI with Stochastic Differential Equations(\*), CS231N: Deep Learning for Computer Vision(\*)

**Math/Systems:** Probability and Statistics (A-), Linear Algebra (A), Calculus (A), High Performance Computing (A), Software Engineering (A)

(\*) denotes audited or online courses.

## PUBLICATIONS & PREPRINTS

- **UniDex: A Robot Foundation Suite for Universal Dexterous Hand Control from Egocentric Human Videos**

**IN SUBMISSION**

June 2025 - November 2025

*The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2026*

**ANONYMOUS AUTHOR**

## RESEARCH

- **Research Interest**

Embodied AI and robotics, with a focus on **bimanual dexterous manipulation** and **Leveraging human demonstrations** to address data scarcity and improve robot learning for manipulation.

- **Experience**

- **DexGen: One Human Video is all you need**

November 2025 - Present

- \* Built a **3D trajectory reconstruction pipeline** using DepthAnything3, SegmentAnthing3, and TraceAnything for accurate object/hand motion tracking.
    - \* Designed and implemented a **data augmentation and generation pipeline** in the SAPIEN simulation environment to improve robustness and generalization for manipulation learning.
    - \* Ongoing project, with a planned submission to **RSS 2026**.

- **UniDex: A Robot Foundation Suite**

June 2025 – November 2025

- \* Built a **bimanual dexterous-hand manipulation platform** integrating two Franka arms, InspireHands, WujiHands, RealSense cameras, NUC, and Apple Vision Pro; deployed the **DROID-dataset robot setup** to support the above hardware.
    - \* Improved the **DemoGen pipeline** for **robot-manipulation data augmentation**, boosting the diversity and quality of collected demonstrations.
    - \* Performed **high-quality teleoperation** and collected post-training datasets for five manipulation tasks.
    - \* Paper In Submission to **CVPR 2026**

## TECHNICAL SKILLS

- **Programming and Scripting Languages**

Python, C/C+, Java, Bash/Shell, JavaScript/TypeScript, CUDA, LaTeX, HDML

- **Tools and Libraries**

Pytorch, Numpy, ROS/ROS2, Sapien, IsaacGym, Polymetis

- **Hardware and Robots**

Franka Panda, Inspire Hand, Wuji Hand, Leap Hand, X Hand, Robotiq Gripper, Apple Vision Pro, Oculus Quest, Realsense Camera, NUC