Yi YANG

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PROFESSIONAL SUMMARY

Motivated and detail-oriented undergraduate student at Shanghai Jiao Tong University, specializing in Engineering Mechanics with a strong focus on robotics, dexterous manipulation, and machine learning. Currently expanding my research experience as a visiting student at Carnegie Mellon University, where I conduct research on learning-based methods for robotic skill acquisition and planning. I have actively contributed to multiple research projects and independently led several projects, demonstrating a capacity for end-to-end project ownership.

RESEARCH INTERESTS

Skill Learning, Offline Reinforcement Learning, Long-Horizon Robotics Tasks, Dexterous Manipulation, Robotic Hands

EDUCATION

Shanghai Jiao Tong University (Member of the C9 League) 09/2023 - 06/2027
Bachelor of Engineering in Engineering Mechanics Shanghai, CN
ZHIYUAN HONORS PROGRAM (Top 10% of students)

- Core Courses: Mathematical Analysis (Honors), Theoretical Mechanics (Honors), Robot Tactile Perception
- Current Grade: 89/100 (Current GPA: 3.8)

Biorobotics Lab, Robotics Institute, Carnegie Mellon University 10/2025 - 09/2026
Student Intern Pittsburgh, PA, US

- Conducting research on skill learning and offline world models for long-horizon planning in Prof. Howie Choset's group

University of California, Berkeley 06/2024 - 08/2024
Summer School Program Berkeley, CA, US

- Core Courses: Artificial Intelligence (A+), Discrete Mathematics (A)
- GPA: 4.0

PUBLICATIONS

- **Yi Yang***, Xiang Fei*, Lehong Wang*, Chenghao Li, Zilin Dai, Henry Kou, Lu Li, Howie Choset. *DeformX: A Versatile Co-Simulation Framework for Deformable Linear Objects.* In submission to IROS 2026.
- Han, H., **Yang, Y.**, Yu, Y., Zhou, Y., Zhu, X., & Wang, H. (2025). Development of a 15-Degree-of-Freedom Bionic Hand with Cable-Driven Transmission and Distributed Actuation. *arXiv preprint arXiv:2512.04399.* https://arxiv.org/abs/2512.04399

PROJECT EXPERIENCE

Skill Learning and Offline World Models for Long-Horizon Planning 10/2025 - Present
Leader Biorobotics Lab, CMU RI

- Investigating offline skill learning with temporally abstract world models
- Reproducing and extending OPOSM-style planning on D4RL benchmarks
- Evaluating zero-shot generalization and robustness under environment mismatch

Tactile dexterity in-hand manipulation research using Imitation Learning 02/2025 - Present
Co-Leader MPI Lab, SJTU

- Investigating tactile-based imitation learning for dexterous in-hand manipulation

- Designing tactile observation representations for multi-contact manipulation
- Evaluating manipulation robustness under varying object poses and contact conditions

15-Degree-of-Freedom Multi-Fingered Bionic Hand Based on Tendon Drive 02/2024 - 02/2025

Participant IRMV Lab, SJTU

- Designed and integrated a 15-DoF tendon-driven dexterous hand system for enhanced flexibility and control precision
- Led system integration across mechanical structure, actuation, and control pipelines
- Developed and implemented control algorithms for multi-finger coordination and grasp execution
- Conducted quantitative motion and grasping performance evaluations on the physical platform
- Contributed to a journal manuscript reporting system design and experimental results

Visual Manipulation of 16-Degree-of-Freedom Dexterous Hand Project 11/2023 - 03/2024

Leader IRMV Lab, SJTU

- Conducted an in-depth literature review on dexterous hand design and high-DoF manipulation systems
- Developed a full kinematic model of a 16-DoF dexterous hand, including joint-level and end-effector representations
- Built a simulation environment and experimental platform to validate kinematic accuracy
- Designed and implemented the mechanical structure of the dexterous hand prototype
- Integrated visual sensing for manipulation feedback and evaluation
- Implemented basic motion control modules, including posture control and trajectory tracking

HONORS & AWARDS

Zhiyuan Honorary Scholarship	12/2024
Second Prize Scholarship	12/2024
First Prize of Shanghai College Student Mechanics Competition	11/2024
Zhiyuan Honorary Scholarship	01/2023
National First Prize in the National Physics Olympiad in China	09/2022
Provincial Second Prize in the National Olympiad in Informatics in Provinces in China	12/2020

SKILLS

Programming: Python, PyTorch, C/C++

Robot Learning: Reinforcement Learning, Imitation Learning, Offline RL

Simulation: MuJoCo, Isaac Lab

Robotics Software: ROS

Hardware: STM32, Embedded Systems, Circuit Design

CAD: SolidWorks