

Haoxiang You

 Haoxiang You |  [haoxiangyou.github.io](https://github.com/haoxiangyou) |  HaoxiangYou
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Education

Yale University

PhD in Mechanical Engineering (Robotics Track), GPA: 4.0/4.0

Expected May 2027

University of Pennsylvania

MS in Mechanical Engineering (Robotics Track), GPA: 4.0/4.0

May 2023

Ningbo University

BS in Mechanical Engineering

Jun 2020

Purdue University

Visiting Student

Dec 2018

Summary

Final-year Robotics PhD candidate at Yale with experience across the robotics stack — hardware design, control, data collection, simulation, model training, agentic workflows, and real-robot deployment. My research develops efficient robot learning algorithms. More recently, my interests lie in agentic robotics: evaluating coding agents on long-horizon physical tasks, integrating them as the robot brain, and using them as a scalable data engine for training low-level cerebellum policies such as VLAs. You can find some examples [here](#).

Publications

EmbodiedSWE: Coding Agents for Long-Horizon Dexterous Robotics

Under Review

Haoxiang You, Z. Shen, Y. Liu, Z. Zheng, L. Zha, K. Yamazaki, M. Zhang, S. Huang, J. Sun, Q. Chen, L. He, H. Chang, D. Shah, M. Schwager, K. Fragkiadaki, P. Henderson, I. Abraham, C. Xu

Efficient On-policy Visual-RL via Stochastic Decoupled Policy Gradient

CoRL 2026

Haoxiang You, Y. Liu, D. Zong, Qian Wang, T. Vitchutripop, Qi Wang, D. Rakita, I. Abraham

Sample-Based Hybrid Mode Control: Asymptotically Optimal Switching of Algorithmic and Non-Differentiable Control Modes

ICRA 2026

Yilang Liu, Haoxiang You, Ian Abraham

Goal-Driven Reward by Video Diffusion Models for Reinforcement Learning

CVPR 2026

Q. Wang, M. Wu, Y. Zhang, M. Yuan, W. Zhang, Haoxiang You, Y. Wang, X. Jin, X. Yang, W. Zeng

Accelerating Visual-Policy Learning through Parallel Differentiable Simulation

NeurIPS 2025 **[Spotlight]**

Haoxiang You, Yilang Liu, Ian Abraham

Is Bellman Equation Enough for Learning Control?

Preprint 2025

Haoxiang You, Lekan Molu, Ian Abraham

Work Experience

Genesis-AI, Research Scientist Intern

Jul 2025 – Nov 2025

- Built exoskeleton teleoperation hardware and a data-collection pipeline that gathers robot demonstrations for Vision-Language-Action (VLA) and imitation-learning training, and constructed digital twins of real scenes for simulation.
- Developed a general-purpose Model Predictive Control (MPC) framework that generates manipulation data autonomously, without human teleoperation, and contributed training optimizations to the sim-to-real co-training pipeline.

University of Pennsylvania, Robotics Research Assistant

May 2022 – Sep 2022

- Developed control strategies — trajectory optimization, feedback control, system identification, and state estimation — for the Cassie bipedal robot, and transferred locomotion controllers from simulation to hardware, bridging the sim-to-real gap under model mismatch, sensor noise, and actuator dynamics.

YITU Tech, Self-Driving Control Intern

Jan 2021 – Jul 2021

- Trained neural vehicle-dynamics models to improve simulator fidelity for self-driving control, and tuned trajectory-tracking controllers on electric test vehicles.

Selected Projects

Yale MCube Satellite

2024 – 2025

– Led the mechanical team — redesigning the satellite’s structure for manufacturing — and developed communication and control code as a core member of the embedded team.

Full-Stack LLM Implementation

2025

– Implemented an LLM training and deployment stack end-to-end — pretraining, supervised fine-tuning, reinforcement learning, and distributed training.

Invited Talks & Media

NVIDIA Robotics Seminar, Computational Methods for Curious Robots

2025

Robot Mind Podcast, Accelerating Reinforcement Learning with Visual Inputs

2025

Teaching & Academic Service

Reviewer, ICRA, CVPR, ECCV, NeurIPS, CoRL, RA-L

Organizer, Yale Robotics Reading Group

Teaching, Mechatronics Laboratory & Multivariable Calculus (Yale); Learning in Robotics (Penn)

Honors and Awards

Outstanding Academic Award

University of Pennsylvania

2023

Dean’s List

Purdue University

2018

Province Scholarship

Zhejiang

2017 & 2018

First-class Academic Scholarship

Ningbo University

2017

Skills

Programming

Python, C, C++, C#

Physical Simulation

MuJoCo, Brax, Isaac Sim, Newton, Genesis, ManiSkill, Drake

ML & Optimization

PyTorch, JAX, SNOPT, IPOPT

LLM Agents

Agent harnesses & evaluation, agentic coding workflows

Hardware & Tools

SolidWorks, mechatronics, 3D printing, CNC machining, Unity, Blender