Xinchen Yao

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Education

University of Illinois Urbana Champaign, BS in Computer Engineering — Sep 2022 – May 2026
Zhejiang University, BS in Electrical and Computer Engineering — Sep 2022 – May 2026

- GPA: 3.77/4.0

Technical Skills

Languages: Python, C/C++, CUDA, Matlab, Rust

Tools: PyTorch, Jax, ROS2, Isaac Lab, Genesis, Mujoco Playground, MoveIt, STM32, SLAM

Knowledge: Deep Learning, Control Theory, Low-Level Communication Protocols, Embedded Systems

Experience

Physical Intelligence Lab, Zhejiang, China — Undergraduate Researcher
Advisor: Hua Chen — July 2025 - Present

- Research on motivating emergent behaviors in RL.
- Training and deploying policies for bipedal robots and humanoids.
- Research on minimizing sim-to-real gap.

Human Dynamics Controls Lab, Illinois, US — Undergraduate Researcher
Advisor: Elizabeth Hsiao-Wecksler — Sep 2024 - Jun 2025

- Enhanced omniwheel simulation.
- New sensor integration to ballbot PURE Gen3.
- Control algorithm optimization for PURE Gen3.

RoboMaster Meta Team, Zhejiang, China — Contol Group Leader
Advisor: Jiahuang Cui — Jun 2023 - Present

- Won second prize in RoboMaster regional competitions.
- Created an entire ROS2-based control system for multiple robots.
- Responsible for both low-level communication and high-level control design.
- Trained new members in control group.
- Participated in mechanics-control co-design.

Projects

Where to Learn — Second Author

- Overview: A new reinforcement learning algorithm based on PPO and APG.
- My contribution: Code implementation, trainging and deployment, and experiments.
- Website: **wheretolearn.github.io**

Omni WBR — First Author

- Overview: A method to motivate emergent gaits in wheeled bipedal robots for omni-directional walking.
- My contribution: Algorithm design, code implementation, training and deployment, experiments.
- Demonstation available on my website **yao-xinchen.github.io/projects/omni-wbr/**.

Meta-Team/Meta-ROS — Creator, Maintainer

- Overview: An ROS2-Based control system, including sensors, actuators, kinematics.
- Features: Supporting multiple robots, highly modular, dynamically configured.
- Code availability: **github.com/Meta-Team/Meta-ROS**