Xinchen Yao

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Education

University of illinois, Urbana Champaign, BS in Computer Engineering — Sept 2022 – May 2026

- GPA: 3.77/4.0

Technical Skills

Languages: C/C++, Python, Rust, Matlab, Shell, RISC-V Assembly, CMake, XML, YAML

Tools: ROS2, PyTorch, Git, SSH, Isaac Gym, MoveIt, RViz, ONNX, STM32, Neovim

Knowledge: Reinforcement Learning, Control Theory, Motion Planning, Low-Level Communication Protocols

Experience

Meta Team, Zhejiang, China — Jun 2023 - Sept 2024

Advisor: Jiahuang Cui

- This a team in the competition RoboMaster held by DJI.
- Created an entire control system based on ROS2 for multiple robots.
- Integrated an auto-aiming program based on OpenCV.
- Designed a motion planning algorithm for a manipulator based on MoveIt.
- Helped with mechanical design and assembly.

Human Dynamics Controls Lab, Illinois, US — Sept 2024 - Jun 2025

Advisor: Elizabeth Hsiao-Wecksler

- Built XACRO model for PURE Gen3.
- Control algorithm optimization for PURE Gen3.

Projects

Control system based on ROS2 — Meta-Team/Meta-ROS

- An robot control system, including sensors, actuators, kinematics, decision, and manual control.
- Features: Supporting multiple robots, highly modular, dynamically configured.
- Tools used: C++, Python, ROS2 framework.
- Code availability: github.com/Meta-Team/Meta-ROS

Course Projects

Robotics Project, KIMLAB — ECE398 FA24

Advisor: Joohyung Kim

- Built a duplicated Ringbot, including mechanics and hardware.
- Refactored the control framework with ROS2.
- Optimized the control algorithm with RL-based agent.
- Tools used: C++, Python, ROS2 framework, Isaac Gym, PyTorch, ONNX.

Computer Systems Engineering — ECE391 FA24

Advisor: Kirill Levchenko and Dong Kai Wang

- Implemented a Unix-like RISC-V OS with concurrency, vioblk and serial device, file system, virtual memory and system call.
- Wrote a shell in user space, supporting recursive calling.