Wanting Yao

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EDUCATION

University of Pennsylvania **Aug. 2025 – *Expected May. 2027***
Master of Engineering in Robotics, GRASP Lab

Zhejiang University **Sep. 2021 – *Jun. 2025***
B.S. in Automation, College of Control Science and Engineering *GPA: 3.96/4.0(90.96/100)*

PUBLICATION

1. **Hyper-GoalNet: Goal-Conditioned Manipulation Policy Learning with HyperNetworks** under review *Pei Zhou*, **Wanting Yao***, Qian Luo, Xunzhe Zhou, Yanchao Yang*

RESEARCH EXPERIENCE

Goal Conditioned Policy Generation **Jul. 2024 – Nov. 2024**
Research Intern in HKU-IDS, under Prof. Yanchao Yang's Guidance

- Proposed a novel framework using optimization-inspired hypernetwork architecture with a latent space shaping technique to generate goal-conditioned policy for robotic manipulation.
- Trained models based on the above method which reveal the state-of-the-art success rate in simulation and excellent goal-reaching behavior given a single image of the desired goal.

Wheeled Mobile Robot Path Planning and Localization **Mar. 2023 – Jun. 2023**
Enhanced Lab Training Program, under Prof. Yue Wang's Guidance

- Modeled a wheeled robot and implemented its motion control that responds to keyboard input in Gazebo.
- Implemented a SLAM system which uses laser odometry to collect data, applies RRT and DWA algorithms for path planning and the ICP algorithm for localization. Deployed the system on a physical robot car.

PROJECTS

Manipulator Trajectory Planning **Apr. 2024**

- Modeled a six-DoF manipulator with DH parameters and achieved the kinematic and inverse kinematics solutions in MATLAB.
- Used quintic polynomial and linear interpolation solutions for trajectory planning. Implemented the trajectory planning in CoppeliaSim and deployed it on the manipulator.

Magic-Wand-Controlled Drone Flight System **Dec. 2023**

- Collected wand data using an onboard IMU and calculated the position and velocity trajectories of the wand in the world coordinate system.
- Established a system to teleoperate the drone to move in the same way the wand controls it.

Logistic Transport Robot **Sep. 2022**

- Developed a logistic transport robot with recognition, grasping, and placing functions from scratch.
- Adjusted the servo angles using an open-loop tuning method to achieve various mechanical arm postures, enabling gripping and placing at specified positions.

SKILLS

Languages: Python, C, MATLAB, HTML, LaTeX, 8051 Assembly
Technologies: Linux, ROS, Pytorch, 3d Printing, STM32, Arduino
Develper Tools: VS Code, Git, Keil, Altium Designer, Solidworks, AutoCAD

AWARDS

National Scholarship (Top 3%) issued by Ministry of Education of the People's Republic of China **2024**
First Prize Scholarship (Top 5%) issued by Zhejiang University **2022 & 2024**
Third Prize of the 2023 National College Student Mathematical Contest in Modeling **2023**
Third Prize of the 7th College Student Robot Competition of Zhejiang Province **2023**