Yongqiang Zhao

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EUCATION

Southeast University *Nanjing,China*

A Master student, Control Science and Engineering Sep. 2021 - Present

- **Supervisor:** Prof.Kun Qian
- **Research Interests:** robotic manipulation, tactile sensing, robot learning

Southeast University *Nanjing, China*

Bachelor of Engineering, Robot Engineering Sep. 2017 - Jun. 2021

- **GPA: 3.86/4.00**

TEACHING

Intelligent Robot System Synthesis Design *B0804090*

Teaching Assistant Fall, 2022

PUBLICATIONS

[1] Jing, X., **Zhao, Y.**, Jiang, J., Duan, B., Qian, K.*, & Luo, S*. (2023, June). **Unsupervised Adversarial Domain Adaptation for Sim-to-Real Transfer of Tactile Manipulation Skills.** ICRA 2023 ViTac Workshop: Blending Virtual and Real Visuo-Tactile Perception. [Link]

[2] **Zhao, Y.**, Jing, X., Qian, K.*, Gomes, D. F., & Luo, S.* (2023). **Skill Generalization of Tubular Object Manipulation with Tactile Sensing and Sim2Real Learning.** Robotics and Autonomous Systems, 160, 104321. [Link]

[3] Qian, K.*, Duan, Y., Luo, C., **Zhao, Y.**, & Jing, X. (2023). **Pixel-Level Domain Adaptation for Real-to-Sim Object Pose Estimation.** IEEE Transactions on Cognitive and Developmental Systems. [Link]

PROJECTS

Sim2Real Tactile-Guided Robot Manipulation Skills Learning *Jan. 2022 - Present*

- Construct tactile-motor policy learning framework for both tactile images and flows.
- Propose a pixel-level unsupervised domain adaptation network for planar pose estimation.
- Learn and zero-shot Sim2Real transfer various robot manipulation tasks using improved SAC.

Design and Simulation of Vision-based Tactile Sensor *Sep. 2021 - Dec. 2022*

- Reproduce and improve the design of GelSight-like sensors.
- Simulate the optical and mechanical responses including lighting, shadow, and marker motion.
- Relevant content has been submitted to IEEE Robotics and Automation Letters.

Object Pose Estimation Using RGB-D Data for Robot Grasping *Sep. 2020 - Jun. 2021*

- Introduce depth completion method and propose performance evaluation indicator.
- Optimize the estimated poses through confidence set and weighted summation in DenseFusion.
- Conduct real-world grabbing experiments based on the model trained on pure simulation data.

AWARDS

2021-2023 **Scholarship**: Graduate Scholarship

2022 **Honorary Title**: Merit Student of Southeast University

2019 **Scholarship**: National Encouragement Scholarship

2018 **Honorary Title**: Outstanding Volunteer in Jiangsu Province

SKILLS

Programming Python, C, Matlab

Professional Softwares Mujoco, Pybullet, Gazebo, Meshlab

Clipping & Typesetting Markdown, Office, LaTeX, Premiere

Languages Chinese(Native), English