

Jing Huang

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EDUCATION

The Chinese University of Hong Kong (CUHK) Ph.D. in Mechanical and Automation Engineering – Research Interests: robot manipulation, robot vision, motion and path planning	2017 - 2023 Hong Kong
Tsinghua University B.Eng. in Automotive and Mechanical Engineering	2013 - 2017 Beijing

EMPLOYMENT

University of California San Diego Exchange Research Fellow, Department of Computer Science and Engineering	2024 - 2025 San Diego
Multi-Scale Medical Robotics Center, CUHK Postdoctoral Fellow	2023 - 2025 Hong Kong

PUBLICATIONS

1. **Jing Huang**, Hao Su, and Kwok Wai Samuel Au, "Passage-traversing optimal path planning with sampling-based algorithms," *arXiv*, 2025, [\[PDF\]](#)
2. Yunxi Tang, **Jing Huang**, Zhen Zhang, Xiangyu Chu, and Kwok Wai Samuel Au, "Hierarchical deformation planning and neural tracking for DLOs in obstacle-dense environments," submitted to *IEEE/ASME Transactions on Mechatronics (T-Mech)*, 2025
3. Yunxi Tang, Tianqi Yang, **Jing Huang**, Xiangyu Chu, and Kwok Wai Samuel Au, "Generative 3D state estimation for DLOs from partial observations," *IEEE Robotics and Automation Letters (RAL)*, 2025.
4. Zhen Zhang, Xiangyu Chu, Yunxi Tang, Lulu Zhao, **Jing Huang**, Zhongliang Jiang, and Kwok Wai Samuel Au, "Manipulating elasto-plastic objects with 3D occupancy and learning-based predictive control," *IEEE Robotics and Automation Letters (RAL)*, 2025. [\[PDF\]](#) [\[Video\]](#)
5. **Jing Huang**, Yunxi Tang, and Kwok Wai Samuel Au, "Homotopic path set planning for robot manipulation and navigation", *Robotics: Science and Systems (RSS)*, 2024. [\[PDF\]](#) [\[Video\]](#)
6. Yunxi Tang, Xiangyu Chu, **Jing Huang**, and Kwok Wai Samuel Au, "Learning-based MPC with safety filter for constrained deformable linear object manipulation," *IEEE Robotics and Automation Letters (RAL)*, 2024. [\[PDF\]](#) [\[Video\]](#)
7. **Jing Huang**, Xiangyu Chu, Xin Ma, and Kwok Wai Samuel Au, "Deformable object manipulation with constraints using path set planning and tracking," *IEEE Transactions on Robotics (TRO)*, 2023. [\[PDF\]](#) [\[Video\]](#)
8. Xiangyu Chu, Shengzhi Wang, Minjian Feng, Yuxuan Zhao, Jiaxi Zheng, **Jing Huang**, and Kwok Wai Samuel Au, "Model-free large-scale cloth spreading with mobile manipulation: Initial feasibility study," *IEEE International Conference on Automation Science and Engineering (CASE)*, 2023. [\[PDF\]](#)
9. **Jing Huang** and Kwok Wai Samuel Au, "Task-oriented grasping position selection in deformable object manipulation," *IEEE Robotics and Automation Letters (RAL)*, 2022. [\[PDF\]](#) [\[Video\]](#)
10. **Jing Huang**, Yuanpei Cai, Xiangyu Chu, Russell H. Taylor, and Kwok Wai Samuel Au, "Non-fixed contact manipulation control framework for deformable objects with active contact adjustment," *IEEE Robotics and Automation Letters (RAL)*, *ICRA option*, 2021. [\[PDF\]](#) [\[Video\]](#)
11. Ru Yang, **Jing Huang**, and Ping Guo, "Frequency dependence of levitation force in near-field acoustic levitation." *International Symposium on Flexible Automation*, 2018. [\[PDF\]](#)

TEACHING

– MAEG4070 Engineering Optimization	Spring, 2020
– ENGG1410C Linear Algebra and Vector Calculus for Engineers	Spring, 2019
– MAEG3050 Introduction to Control Systems	Fall, 2018

PROFESSIONAL SERVICE & CODING

Reviewer: RAL, ICRA, IROS, JMR Coding: C/C++, MATLAB, Python, ROS