

# Jing Huang

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## EDUCATION

<b>The Chinese University of Hong Kong (CUHK)</b> Ph.D. in Mechanical and Automation Engineering – Research Interests: robot manipulation, robot vision, motion and path planning	2017 - 2022 Hong Kong
<b>Tsinghua University</b> B.Eng. in Automotive and Mechanical Engineering	2013 - 2017 Beijing

## EMPLOYMENT

<b>University of California San Diego</b> Exchange Research Fellow, Department of Computer Science and Engineering	2024 - 2025 San Diego
<b>Multi-Scale Medical Robotics Center, CUHK</b> 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," submitted to *The International Journal of Robotics Research (IJRR)*, 2025.
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. 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. [\[PDF\]](#) [\[Video\]](#)
4. **Jing Huang**, Yunxi Tang, and Kwok Wai Samuel Au, "Homotopic path set planning for robot manipulation and navigation", *Robotics: Science and Systems (RSS)*, 2024. [\[PDF\]](#) [\[Video\]](#)
5. 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. [\[PDF\]](#) [\[Video\]](#)
6. **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. [\[PDF\]](#) [\[Video\]](#)
7. Xiangyu Chu, Shengzhi Wang, Minjian Feng, Yuxuan Zhao, Jiayi 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. [\[PDF\]](#)
8. **Jing Huang** and Kwok Wai Samuel Au, "Task-oriented grasping position selection in deformable object manipulation," *IEEE Robotics and Automation Letters (RAL)*, 2022. [\[PDF\]](#) [\[Video\]](#)
9. **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. [\[PDF\]](#) [\[Video\]](#)
10. 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