

Yulin Li

Tel: +86 17717092075 | Email: yline@connect.ust.hk

RESEARCH INTEREST

Robot Motion Planning & Control, Optimization

EDUCATION

Harvard University

Visiting Scholar in Computational Robotics Lab

Supervised by **Prof. Heng Yang**

MA, USA

Sep. 2024 – Mar. 2025

The Hong Kong University of Science and Technology

Ph.D. Student in Robotics and Autonomous Systems

Supervised by **Prof. Jun Ma** and **Prof. Michael Yu Wang**

Hong Kong, China

Sep. 2021 – Present

University of California, San Diego

M.Sc. in Mechanical and Aerospace Engineering GPA: 4.0/4.0

Major in: Motion Planning and Control for Robotics

CA, USA

Sep. 2019 – Jun. 2021

Tongji University

B.Eng. in Mechatronic Engineering GPA: 4.7/5.0

Shanghai, China

Sep. 2015 – Jun. 2019

HONORS & AWARDS

Robotica Best Paper Award Finalist, ROBIO 2023

Dec. 2023

Shanghai Excellent Graduated Student

Jun. 2019

Shanghai Scholarship

May. 2018

RoboMasters National College Student Robot Competition 1st Prize top 9%

May. 2018

Shanghai College Student Mechanical Engineering Innovation Competition 1st Prize

Apr. 2017

China Undergraduate Mathematical Contest in Modeling 1st Prize top 0.82%

Oct. 2017

RESEARCH & INTERNSHIP

Harvard University: Computational Robotics Lab

Sep. 2024 – Mar. 2025

- Advised by **Professor Heng Yang**
- Conducting research on contact-implicit motion planning problems, developing high-performance numerical solvers for nonlinear programming with complementarity constraints.

HKUST Shenzhen-Hong Kong Collaborative Innovation Research Institute *Dec. 2022 – Present*

- Advised by **Professor Michael Yu Wang**
- In charge of the research development of the motion planning & control system of a mobile manipulator to achieve safe motion and dexterous manipulation in cluttered indoor environments.

Tencent Holding Ltd: Robotics X Lab

Jul. 2020 – Oct. 2020

- Advised by **Professor Zhengyou Zhang**
- Build a single leg hopping platform to conduct experiments on new designs of the actuator and leg structure.

Carnegie Mellon University Robotics Institute

Jul. 2018 – Sep. 2018

- Advised by **Professor Howie Choset**
- Carried out snake robot motion planning and adaptive control.

- [1] **Y. Li**, H. Han, S. Kang, J. Ma, H. Yang*, “On the Surprising Robustness of Sequential Convex Optimization for Contact-Implicit Motion Planning,” *arXiv preprint*, 2025.
- [2] **Y. Li**, C. Zheng, K. Chen, Y. Xie, X. Tang, M. Y. Wang, and J. Ma*, “Collision-Free Trajectory Optimization in Cluttered Environments with Sums-of-Squares Programming,” *IEEE Robotics and Automation Letters*, 2024.
- [3] **Y. Li**, X. Tang, K. Chen, C. Zheng, H. Liu, and J. Ma*, “Geometry-Aware Safety-Critical Local Reactive Controller for Robot Navigation in Unknown and Cluttered Environments,” *IEEE Robotics and Automation Letters*, 2024.
- [4] **Y. Li**, Z. Song, C. Zheng, Z. Bi, K. Chen, M. Y. Wang and J. Ma*, “FRTree Planner: Robot Navigation in Cluttered and Unknown Environments with Tree of Free Regions,” *IEEE Robotics and Automation Letters*, 2025.
- [5] C. Zheng, **Y. Li**, Z. Song, Z. Bi, J. Zhou, B. Zhou, J. Ma*, “Local Reactive Control for Mobile Manipulators with Whole-Body Safety in Complex Environments,” *IEEE Robotics and Automation Letters*, 2025.
- [6] K. Chen, H. Liu, **Y. Li**, J. Duan, L. Zhu, and J. Ma*, “Robot navigation in unknown and cluttered workspace with dynamical system modulation in starshaped roadmap,” *IEEE International Conference on Robotics and Automation (ICRA)*, 2025.
- [7] Y. Wang, **Y. Li**, Z. Peng, H. Ghazzai, and J. Ma*, “Chance-Aware Lane Change with High-Level Model Predictive Control Through Curriculum Reinforcement Learning,” *IEEE International Conference on Robotics and Automation (ICRA)*, 2024.

REFERENCES

Prof. Jun Ma

Department of Electronic and Computer Engineering
The Hong Kong University of Science and Technology
Email: jun.ma@ust.hk

Prof. Heng Yang

School of Engineering and Applied Sciences (SEAS)
Harvard University
Email: hankyang@seas.harvard.edu

Prof. Xindong Tang

Department of Mathematics
Hon Kong Baptist University
Email: xdtang@hkbu.edu.hk

Prof. Michael Yu Wang

School of Engineering
Great Bay University
Email: mywang@gbu.edu.cn