

Anxing Xiao

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RESEARCH INTERESTS

My current research topics cover motion planning, assistive robotics, and autonomous system design. My long-term research goal is to develop intelligent robots that can infer and interact with the dynamic and open world in long-horizon tasks.

EDUCATION

National University of Singapore

Ph.D. student in Computer Science

Advisors: Prof. David Hsu

Jan 2023 - present

Harbin Institute of Technology, Shenzhen

B.Eng. in Automation, GPA: 93.08/100 (Rank 1/70)

Aug 2017 - Jun 2021

University of California, Berkeley

Visiting Student, GPA: 3.93/4.0

Advisor: Prof. Koushil Sreenath; ICRA Best Paper Award Finalist for Service Robotics

Aug 2019 - Sep 2020

EXPERIENCE

Robotic Perception and Intelligence Lab, SUSTech & CUHK

Research Assistant with Prof. Max Q.-H. Meng

Worked on autonomous trolley collection robots and fast Generalized Voronoi Diagrams generation.

Aug 2021 - Jun 2022

Shenzhen, China

Noah's Ark Lab, Huawei

Research intern with Prof. Jianzhuang Liu

Worked on image denoising algorithm based on Vector Quantized Variational Autoencoder and Swin Transformer.

Jan 2021 - Jul 2021

Shenzhen, China

Hybrid Robotics Lab, UC Berkeley

Research intern with Prof. Koushil Sreenath

Worked on robotic guide dog and quadrupedal autonomous navigation with optimized jumping.

Mar 2020 - Mar 2021

Berkeley, California

PUBLICATIONS

Preprints

* denotes equal contribution

1. Collaborative Trolley Transportation System with Autonomous Nonholonomic Robots

Bingyi Xia, Hao Luan, Ziqi Zhao, Xuheng Gao, Peijia Xie, **Anxing Xiao***, Jiankun Wang*, Max Q.-H. Meng,
Under Review, IROS 2023

Conference

6. Quadruped Guidance Robot for the Visually Impaired: A Comfort-Based Approach

Yanbo Chen, Zhengzhe Xu, Zhuozhu Jian, Gengpan Tang, Yunong Yangli, **Anxing Xiao***, Xueqian Wang*, Bin Liang
Accepted by International Conference on Robotics and Automation (ICRA), 2023

5. PUTN: A Plane-fitting based Uneven Terrain Navigation Framework.

Zhuozhu Jian, Zihong Lu, Xiao Zhou, Bin Lan, **Anxing Xiao***, Xueqian Wang*, Bin Liang
International Conference on Intelligent Robots and Systems (IROS), 2022

4. Robotic Autonomous Trolley Collection with Progressive Perception and Nonlinear Model Predictive Control.

Anxing Xiao*, Hao Luan*, Ziqi Zhao*, Yue Hong, Jieting Zhao, Jiankun Wang, Max Q.-H. Meng
International Conference on Robotics and Automation (ICRA), 2022

3. Autonomous Navigation with Optimized Jumping through Constrained Obstacles on Quadrupeds.

Scott Gilroy, Derek Lau, Lizhi Yang, Ed Izaguirre, Kristen Biermayer, **Anxing Xiao**, Mengti Sun, Ayush Agrawal, Jun Zeng, Zhongyu Li, Koushil Sreenath
International Conference on Automation Science and Engineering (CASE), 2021

2. Robotic Guide Dog: Leading a Human with Leash-Guided Hybrid Physical Interactions.

Anxing Xiao*, Wenzhe Tong*, Lizhi Yang*, Jun Zeng, Zhongyu Li and Koushil Sreenath
International Conference on Robotics and Automation (ICRA), 2021

🏆 Best Paper Award Finalist for Service Robotics.

1. **Amphibious Robot's Trajectory Tracking with DNN-Based Nonlinear Model Predictive Control.**
Yaqi Wu, **Anxing Xiao**, Haoyao Chen, Shiwu Zhang and Yunhui Liu
International Conference on Advanced Intelligent Mechatronics (AIM), 2020

SELECTED AWARDS AND HONORS

- NUS Research Scholarship 2023
- Best Paper Award Finalist for Service Robotics at **ICRA '21** 2021
- Dean's Award. 2021
- First-class Undergraduate Academic Scholarship 2018-2021
- Provincial-Level Merit Student. 2019
- National Scholarship. 2018

PROFESSIONAL RESPONSIBILITIES

- *Journal Reviewing:* IEEE T-RO, IEEE RA-L, Biomimetic Intelligence and Robotics
- *Conference Reviewing:* ICRA '22 '23, IROS '22, ROBIO '21.
- *Mentorship*
 - Students
 - * Bingyi Xia [P.1], MS @ SUSTech 2022 - 2023
 - * Xuheng Gao [P.1], MS @ SUSTech 2022 - 2023
 - * Yanbo Chen [C.6], Undergrad @ HITsz → MS @ Tsinghua Univ. 2021 - 2022
 - * Zhengzhe Xu [C.6], Undergrad @ HITsz 2021 - 2022
 - * Xiao Zhou [C.5], Undergrad @ HITsz 2021 - 2022

SKILLS

- **Programming:** Python, C/C++, MATLAB, HTML
- **Softwares & Tools:** ROS, PyTorch, OpenCV, CasADi, LCM, Solidworks, Gazebo, Isaac Sim, Git, LaTeX
- **Hardware:** Multiple Motors and Sensors, Arduino, Raspberry Pi, Basic Mechanical Design
- **Sports:** Table Tennis, Basketball, Soccer