

Anxing Xiao

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EDUCATION

Harbin Institute of Technology, China

Sep 2017 – July 2021

- B.Eng. in Automation, Shenzhen Campus, GPA: 93.08/100 (Rank 1/70), Advisor: [Prof. Haoyao Chen](#)
- National Scholarship (top 0.2%); Dean's Award (Highest Undergraduate Award); First-class Undergraduate Academic Scholarship (top 5%); Provincial-Level Merit Student (top 1%).

University of California, Berkeley, United States

Aug 2019 - Aug 2020

- Visiting Student, GPA: 3.93/4.0, Advisor: [Prof. Koushil Sreenath](#)
- Selected Courses (all grad level): ME232 Advanced Control System, EEC220b State Estimation, EECS106b Robotic Manipulation, CS294 3D Vision, EE291 Hybrid System, E231 Mathematical Methods in Engineering

RESEARCH EXPERIENCE

Robot Perception & Intelligence Lab, Southern University of Science and Technology

Aug 2021 – Present

Research Assistant, Advisor: [Prof. Max Q.-H. Meng](#)

- Designed a robotic trolley collection system that can collect trolleys. Proposed a progressive perception system to locate the target trolley, and implement the planning system for safe navigation and accurate docking.
- Proposed a method to compute Generalized Voronoi Diagram (GVD) using Networks without training. Using the heuristic information provided by GVD, improved the performance of RRT*. (ongoing)

Noah's Ark Lab, Huawei Technologies

Jan 2021 – July 2021

Computer Vision Research Intern, Advisor: [Prof. Jianzhuang Liu](#)

- Designed and implemented image denoising algorithm based on Vector Quantised Variational AutoEncoder.

Hybrid Robotics Lab, UC Berkeley

Mar 2020 – Oct 2020

Undergraduate Research Assistant, Advisor: [Prof. Koushil Sreenath](#)

- Added high-level computer and multiple sensors on the quadrupedal robot Mini-Cheetah. Deployed planning, perception, and communication for Mini-Cheetah based on ROS and LCM.
- Designed and implemented the robotic guide dog that automatically led the blind human to navigate in the narrow space without any collisions.

Networked Robotics and Systems Lab, Harbin Institute of Technology

Feb 2019-July 2019

Undergraduate Research Assistant, Advisor: [Prof. Haoyao Chen](#)

- Designed and implemented a DNN-based nonlinear model predictive controller that achieves amphibious robot trajectory tracking on uneven terrain. Built simulation environment for data collecting based on Gazebo.

PUBLICATION

- Yanbo Chen, Zhengzhe Xu, Zhuozhu Jian, Gengpan Tang, Yunong Yangli, **Anxing Xiao**, Xueqian Wang, Bin Liang, "Quadruped Guidance Robot for the Visually Impaired: A Comfort-Based Approach", *Submitted to IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2022*. [Student Advisor](#)
- Zhuozhu Jian, Zihong Lu, Xiao Zhou, Bin Lan, **Anxing Xiao**, Xueqian Wang, Bin Liang, "PUTN: A Plane-fitting based Uneven Terrain Navigation Framework", *Submitted to IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2022*. [Student Advisor](#)
- **Anxing Xiao***, Hao Luan*, Ziqi Zhao*, Yue Hong, Jieting Zhao, Weinan Chen, Jiankun Wang, Max Q-H Meng, "Robotic Autonomous Trolley Collection with Progressive Perception and Nonlinear Model Predictive Control", *Accept to IEEE International Conference on Robotics and Automation (ICRA) 2022*.
- Scott Gilroy, Derek Lau, Lizhi Yang, Ed Izaguirre, Kristen Biermayer, **Anxing Xiao**, Mengti Sun, Ayush Agrawal, Jun Zeng, Zhongyu Li, Koushil Sreenath. "Autonomous navigation for quadrupedal robots with optimized jumping through constrained obstacles", *IEEE 17th International Conference on Automation Science and Engineering (CASE) 2021*.

- **Anxing Xiao***, Wenzhe Tong*, Lizhi Yang*, Jun Zeng, Zhongyu Li and Koushil Sreenath, " Robotic Guide Dog: Leading Human with Leash-Guided Hybrid Physical Interaction", *IEEE International Conference on Robotics and Automation (ICRA)* 2021. *ICRA Best Paper Award Finalist for Service Robotics*.
- Yaqi Wu*, **Anxing Xiao***, Haoyao Chen, Shiwu Zhang and Yunhui Liu, "Amphibious Robot's Trajectory Tracking with DNN-Based Nonlinear Model Predictive Control", *IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)* 2020.

* denotes equal contribution

ACADEMIC SERVICE

Journal Reviewer

- IEEE Transactions on Robotics (T-RO), 2021
- Biomimetic Intelligence and Robotics, 2021

Conference Reviewer

- 2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- 2022 IEEE International Conference on Robotics and Automation (ICRA)
- 2021 IEEE International Conference on Robotics and Biomimetics (ROBIO)

Undergraduate Research Mentor

- Quadruped Guidance Robot, Tsinghua University, 2021.9 – Present
- Plane-Fitting based Uneven Terrain Navigation Framework, Tsinghua University, 2021.9 – Present

SKILLS

Programming: Python, C/C++, MATLAB, HTML

Softwares&Tools: ROS, Pytorch, OpenCV, CasADi, LCM, Solidworks, Gazebo, Isaac Sim, Git, LaTeX

Hardware: Arduino, Raspberry Pi, Multiple Motors and Sensors, Basic Mechanical Design

Sports: Table Tennis, Basketball, Soccer