Yiyang Shao

Department of Modern Mechanics

School of Engineering Science

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Personal Introduction

I have experience developing navigation and control algorithms for different robots, which has given me a strong understanding of optimal control, SLAM, and path-planning algorithms.

I am a self-motivated and independent learner. My previous experiences cultivated my strong ability to retrieve information and develop new skills independently. I also have a good foundation and intuition in math and physics.

Currently, I am developing navigation and nonlinear control algorithms based on NMPC and RL for a bipedal robot to enable terrain-aware navigation in an uneven environment, as instructed by Prof. Shiwu Zhang.

Projects and Major Assignments

(1) I led a team to design a robot control algorithm that imitates the cat's flipping reflex based on reinforcement learning in the Shenzhen 01 Academy Summer School 2022.

(2) I am participating in the Robomaster competition, responsible for the control algorithms of the bipedal robot and the SLAM and navigation algorithms for the autonomous sentry robot.

(3) I'm Currently leading a project titled "Three-Dimensional Point Cloud-Based Ground Robot Six-Degree-of-Freedom Path Planning and Motion Control".

Skills and Languages

Programming and Tools	Python, C++/C, Matlab, Mathematica , ROS/ROS2, etc
Robotics	Optimal Control, DRL, Path Planning, SLAM, etc
Languages	English: Toefl 95 | French: Basic understanding

Educational Background

2021.9–2025.6 **University of Science and Technology of China**

School of Engineering Science · Department of Modern Mechanics

GPA: 3.79/4.30 (4/143)

Selected Course Grades

Mathematical Analysis B1	95
Linear Algebra B1	96
Probability Theory and Mathematical Statistics	92
Theoretical Mechanics B	99
Statistical Thermodynamics	97
Computer Vision	91
Game AI Design and Practice	1st Place

Awards

JAC NIO Scholarship	Oct 2022
Grand Prize of Zhou Peiyuan Mechanics Competition at Provincial Level	Jun 2023
2nd Prize of RoboMaster 2023 The RoboMaster University Championship	Apr 2023
2nd Prize of RoboMaster 2023 RoboMaster University League	Jun 2023
1st Prize of 2023 Mitsubishi Electrical and Automation Contest Eastern Region	Jun 2023
1st Prize of 2023 SLAMTEC SLAM Autonomous Driving Challenge	Aug 2023
2nd Place of 2023 USTC Artificial Intelligence Innovation Contest	Sep 2023