# Qingrui Zhao (赵清锐)

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#### **ABOUT**

I am a second-year Master's student at Beijing Institute of Technology (BIT). My research interest lies in enhancing the mobility and reliability of legged robots through robust perceptual algorithms and various sensor modalities. I also hold a vast interest in SLAM and mobile robots.

#### **EDUCATION**

## Beijing Institute of Technology

Beijing, China

MSc in Mechanical Engineering Supervisor: Prof. Qiang Huang 2022/09 - Present

Relevant Courses:

Matrix Analysis (88), Advanced Control Engineering (92), Robot System Design and Applications (89)

#### Beijing Institute of Technology

Beijing, China

BEng in Mechatronical Engineering

2018/09 - 2022/07

**GPA**: 3.6/4

**Relevant Courses:** 

Linear Algebra (94), Mathematical Analysis for Engineering I, II (84, 85), Probability Theory and Mathematical Statistics (89), Theoretical Mechanics (98), Theory of Machines and Mechanisms (95), Mechatronic Control Technology (95), Basics of Python Programming and Artificial Intelligence (83)

#### **PUBLICATIONS**

**Qingrui Zhao**, Mingyuan Li, Yongliang Shi, Xuechao Chen, Zhangguo Yu, Lianqiang Han, Zhenyuan Fu, Jintao Zhang, Chao Li, Yuanxi Zhang, and Qiang Huang. "LIKO: LiDAR, Inertial, and Kinematic Odometry for Bipedal Robots" in *ICRA*, 2024. [paper] [video]

#### **PROJECTS**

## Cube Pusher [github.com/Mr-Zqr/cube\_pusher]

2021/09 - 2022/02

Advisor: Prof. Xuechao Chen

This is a tiny robot designed as a class project. It is designed to fit into a competition and find wooden cubes and push them onto opposite colors on the ground. I was responsible for designing the structure of robots using SolidWorks and 3D printing, and for designing microcontroller expansion boards using Altium Designer to simplify electrical connections. We achieved second place in the final competition.

#### Vector - A 2D Racing Game [github.com/Mr-Zqr/Vector]

2019/03 - 2019/04

Advisor: A.P. Fengnian Zhao

This is a computer game about car racing written in C and C++ for the C Programming Language Practice course. I was the team leader and responsible for the game's architecture and interface design. We designed two modes for the game: "Flying Lap" for single-player mode and "Arena Battle" for two-player mode.

#### HONORS

Excellent Student Scholarship (graduate, Top 10%, departmental)

2022, 2023

First Prize for "Challenge Cup" National College Student Extracurricular Academic Science and Technology Works Competition 2023/04

# SKILLS

Programming C++, Matlab, Python Frameworks ROS, mc\_rtc, Eigen

Tools SolidWorks, Docker, GIT, Jupyter Notebook

Interests Photography, Biking, Running

## LANGUAGE

Chinese Mother tongue

**English** IELTS: band 8.0 | L(8.5), R(8.5), W(6.5), S(8.0)