CHENDI QU

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EDUCATION

Ph.D., Shanghai Jiao Tong University *2021.9 - present*
Department of Automation ⋄ Advised by Prof. Jianping He

B.E., Tsinghua University *2017.9 - 2021.6*
Department of Automation ⋄ Advised by Prof. Yilin Mo

RESEARCH INTEREST

I focus on optimal control, optimization, reinforcement learning and their intersections, with applications on robotics. My recent work studies the control intention inference and imitation from demonstration, including the inverse optimal control and inverse reinforcement learning.

PUBLICATIONS

Journals

- **C. Qu**, J. He and X. Duan, "Control Law Learning based on LQR Reconstruction with Inverse Optimal Control", IEEE Transactions on Automatic Control (to appear in 2025).
- **C. Qu**, J. He, J. Li, X. Duan and Y. Mo, "Optimal Control for Mobile Agents Considering State Unpredictability", IEEE Transactions on Automatic Control, 2023.

Conference Papers

- **C. Qu**, J. He, X. Duan and S. Wu, "Control Input Inference of Mobile Agents under Unknown Objective", IFAC World Congress 2023, Yokohama, Japan, 2023.
- **C. Qu**, J. He and J. Li, "Multi-period Optimal Control for Mobile Agents Considering State Unpredictability", 2022 IEEE 96th Vehicular Technology Conference (VTC2022-Fall), London, United Kingdom, 2022.
- **C. Qu**, J. He, J. Li, C. Fang and Y. Mo, "Moving Target Interception Considering Dynamic Environment", 2022 American Control Conference (ACC), Atlanta, GA, USA, 2022.

Preprints

- **C. Qu**, J. He and X. Duan, "3DIOC: Direct Data-Driven Inverse Optimal Control for LTI Systems", arxiv, 2024.
- **C. Qu**, J. He, X. Duan and J. Chen, "Inverse Reinforcement Learning with Unknown Reward Model based on Structural Risk Minimization", arxiv, 2023.

RESEARCH INTERN

Visiting PhD - University of California, San Diego *2024.8 - 2024.11*
Advised by Prof. Yang Zheng
- Direct data-driven control and Koopman theory for nonlinear MPC.

Summer Research Intern - University of California, Berkeley *2020.6 - 2020.8*
Advised by Prof. Xiaolong Wang
- Multi-task reinforcement learning based on auxiliary task gradient.

TECHNICAL STRENGTHS

- Programming: C/C++, C#, MATLAB, Python, Julia
- Others: SQLite, ROS + Gazebo

SERVICE

- **Reviewer** for IEEE TAC, TCNS, TASE, TVT, ACC 2025, IROS 2024.
- **Teaching Assistant** - Control Theory, Shanghai Jiao Tong University *2021.9 - present*

AWARDS

2024 IEEE CSS Graduate Collaboration Fellowship Award (top 10 worldwide), 2024 SJTU Zhengyang SEIEE Scholarship (4/year)