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 problems at the intersection of optimal control and reinforcement learning, applying mainly in robotics. My recent work studies the control intention inference and imitation based on demonstration, including the inverse optimal control and inverse reinforcement learning.

PUBLICATIONS

Journal Article

- **C. Qu**, J. He, J. Li, X. Duan and Y. Mo, "Optimal Control for Mobile Agents Considering State Unpredictability", IEEE Transactions on Automatic Control, Jun. 2024, Early access.

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, X. Duan and J. Chen, "Inverse Reinforcement Learning with Unknown Reward Model based on Structural Risk Minimization", arxiv, 2023.
- **C. Qu**, J. He and X. Duan, "Observation-based Optimal Control Law Learning with LQR Reconstruction", arxiv, 2023, submitted to TAC (major revision).

RESEARCH INTERN

Visiting PhD - University of California, San Diego　　　　　　　*2024.8 - present*
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, KSII TIIS, IROS 2024.
- **Teaching Assistant** - Control Theory, Shanghai Jiao Tong University　　*2021.9 - present*