

JIAWEI TANG

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EDUCATION

The Hong Kong University of Science and Technology <i>Doctor of Philosophy in Electronic & Computer Engineering</i>	2022.9 - Present Supervisor: Prof. Ling Shi
The Hong Kong University of Science and Technology <i>Master of Philosophy in Electronic & Computer Engineering</i>	2019.9 - 2021.8 Supervisor: Prof. Ling Shi
The Hong Kong Polytechnic University <i>BEng(Hons) in Electronic & Information Engineering</i>	2014.9 - 2019.6

RESEARCH INTERESTS

- Numerical methods on trajectory optimization, high-performance OCP solvers, learning-based control, MPC.

WORKING EXPERIENCES

Algorithm Engineer at Autonomous Driving Solution, Huawei • Served as a C++ software engineer and contributed to Huawei's self-developed navigation engine.	2021.10-2022.8
Research Intern at RI, RPL, CMU, Supervisor: Prof. Michael Kaess • Built an automatic extrinsic calibration system of a camera and a 3D LiDAR based on a work of IROS 2018.	2018.6-2018.8
Power Electronics Intern at ASM Pacific Technology • Served as a hardware engineer and worked on digital-controlled driver testing and performance simulation.	2017.6-2018.5

PUBLICATIONS

- Under Review**
 - [CDC] **Jiawei Tang**, Yuxing Zhong, Nachuan Yang, Ling Shi, "Consistent Direct Collocation Methods for Continuous-Time Trajectory Optimization." To submit to *IEEE 62nd Conference on Decision and Control*.
 - [TAC] Nachuan Yang, Yuzhe Li, **Jiawei Tang**, Guodong Shi, Ling Shi, "Log-Barrier Search for Structural Linear Quadratic Regulators." Submitted to *IEEE Transactions on Automatic Control*.
- Journal Papers**
 - [TAC] Nachuan Yang, **Jiawei Tang**, Yik Ben Wong, Yuzhe Li, Ling Shi, "Linear Quadratic Control of Positive Systems: A Projection-Based Approach." *IEEE Transactions on Automatic Control*, 2022.
- Conference Papers**
 - [ASCC] **Jiawei Tang**, Yik Ben Wong, Zhengyu Fu, Nachuan Yang, Sil Kwong Tse, Winnie Suk Wai Leung, Ling Shi, "Motion Planning for Mobile Robots with Noise: A Probabilistic MPC Approach." *IEEE 13th Asian Control Conference*, 2022.
 - [CDC] Nachuan Yang, **Jiawei Tang**, Yuzhe Li, Ling Shi, "LQR Design for Discrete-Time Positive Systems: A First-Order Method." *IEEE 61st Conference on Decision and Control*, 2022.
 - [ICPS] Sil Kwong Tse, Yik Ben Wong, **Jiawei Tang**, Peihu Duan, Suk Wai Winnie Leung, Ling Shi, "Relative State Formation-based Warehouse Multi-robot Collaborative Parcel Moving", *ICPS* 2021.

PROJECTS

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| • Advanced motion control algorithms for UGV high-accuracy trajectory following. | 2023.1 - present |
| • ROS-based multi-robot system [Team organization]. | 2020.1 - 2021.7 |
| • Perception, Planning, and Control for Quadrotor [code]. | 2021.2 - 2021.5 |
| • Learning-based low-resolution face recognition [code]. | 2018.9 - 2019.5 |

SKILLS

- Programming:** C++, Python, MATLAB, Java, HTML, JavaScript, \LaTeX
- Others:** Pytorch, ROS, Git, Arduino, Spice, PCB Fabrication