Jiarui Li

Tel: (+86) 19801162393 | Email: lijiarui@pku.edu.cn | Website: https://jrli.org/

EDUCATION

Peking University (PKU) Beijing, China
***B.E. in Robotics Engineering* (Rank 2 in class, GPA 3.7/4.0)** *Sep 2020 – Jul 2024 (expected)*

- **Relevant Curriculum:** Introduction to Machine Learning (94), Set Theory and Graph Theory (91), Practice of Programming in C and C++ (93), Robotics Experiments (I) (91), Introduction to Computation (A) (91), Theoretical Mechanics (91), Electromagnetism (96), Social Statistics (91)

- **Technical Skills:**
- Programming Skills: Python, C/C++, MATLAB & Simulink, Embedded System (Arduino, STM32)
- Robotics: ROS, Gazebo, Moveit!, OpenCV, PyTorch
- CAD: SolidWorks

PUBLICATIONS

(*indicates joint first authors)

[C2] Yao Su*, **Jiarui Li***, Ziyuan Jiao, Meng Wang, Chi Chu, Song-Chun Zhu, Yixin Zhu, Hangxin Liu, "Planning Sequential Aerial Manipulation for Over-actuated UAMs", in *International Conference on Robotics and Automation (ICRA), 2023. (submitted)*

[C1] Yao Su*, Chi Chu*, Meng Wang, **Jiarui Li**, Yang Liu, Yixin Zhu, Hangxin Liu, "Downwash-aware Control Allocation for Over-actuated UAV Platforms", in *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2022.*

HONORS & AWARDS

- University Merit Student from Peking University 2022
- Schneider Scholarship from College of Engineering 2022

RESEARCH EXPERIENCE

Aerial Robotics (UAV & UAM's Control and Planning) Beijing, China
Beijing Institute for General Artificial Intelligence (BIGAI), Supervisor: Prof. Song-Chun Zhu *Jan 2022 – present*

- Designed and built a fully-actuated UAV platform; Implemented an optimal controller to avoid the downwash disturbance during flipping motion; Further designed a lightweight manipulator, integrated it into the UAV platform, implemented the planning and control algorithms to install a spare part on the ceiling.
- Accumulated experiences in mechatronic design and the implementation of control and planning algorithms. These hardware-related experiences can help me deal with problems like algorithm implementation efficiently.
- The results of these works have been concluded in a few papers, including one in IROS 2022 and one submitted to ICRA 2023, as listed in the "publications" section.

SELECTIVE PROJECTS

Machine Learning: Image and Video Classification, RL for manipulator's motion planning Beijing, China
Introduction to Machine Learning, Peking University *Apr 2022 – Jul 2022*

- Used PyTorch-based neural network to complete image and video classification tasks, and implement a TD3 Reinforcement Learning algorithm to enable the manipular to conduct motion planning.

MATLAB based Modeling and Analysis of a Wire-Driven Flexible Robotic Arm Beijing, China
Introduction to Robotics, Peking University *Apr 2021 – Jul 2021*

The theoretical mechanics-based modeling of the transmission line ice-covering problem Beijing, China
Theoretical Mechanics, Peking University *Oct 2020 – Dec 2020*