

## Education

- The University of Tokyo** Oct. 2023 – Sept. 2026 (expected)  
*Doctoral Student in Mechanical Engineering* Advisor: Lecturer [Moju ZHAO](#)
- Beihang University** Sept. 2020 – June 2023  
*M. Sc. in Control Science and Engineering, GPA: 89.8/100 (↑10%)* Advisor: Prof. [Zhang REN](#)
- Beihang University** Sept. 2016 – June 2020  
*B. Eng. in Automation, ShenYuan Honors College, GPA: 89.7/100 (↑10%)* Supervisor: Prof. [Lei GUO](#)

## Research Interests

My research interest lies in optimization-based control with applications in aerial manipulation, aiming to make aerial robots function as flying hands rather than just eyes.

## Publications

### Papers

- [**RA-L'24**] Jinjie Li, Junichiro Sugihara, Moju Zhao, “Servo Integrated Nonlinear Model Predictive Control for Over-actuated Tilttable-Quadrotors”, *IEEE Robotics and Automation Letters (RA-L)*, vol. 9, no. 10, pp. 8770-8777, Oct. 2024, doi: 10.1109/LRA.2024.3451391.. [[pdf](#)] [[video](#)]
- [**CDC'23**] Jinjie Li, Liang Han, Haoyang Yu, Yuheng Lin, Qingdong Li, Zhang Ren, “Nonlinear MPC for Quadrotors in Close-Proximity Flight with Neural Network Downwash Prediction”, *IEEE Conference on Decision and Control (CDC)*, Singapore, Singapore, 2023, pp. 2122-2128, doi: 10.1109/CDC49753.2023.10383632. [[pdf](#)] [[code](#)]
- [**ICRA'22**] Jinjie Li, Liang Han, Zhang Ren, “Indoor Localization for Quadrotors using Invisible Projected Tags”, *IEEE International Conference on Robotics and Automation (ICRA)*, Philadelphia, PA, USA, 2022, pp. 9404-9410, doi: 10.1109/ICRA46639.2022.9812449. [[oral](#)] [[pdf](#)] [[video](#)]
- [**ICRA'23 Workshop**] Jinjie Li, Liang Han, Haoyang Yu, Yuheng Lin, Qingdong Li, Zhang Ren, “Potato: A Data-Oriented Programming 3D Simulator for Large-Scale Heterogeneous Swarm Robotics”, *ICRA'23 Workshop on The Role of Robotics Simulators for Unmanned Aerial Vehicles*, 2023. [[pdf](#)] [[code](#)]

### Co-Authored

- [**ICRA'25**] Hisaaki Iida, Junichiro Sugihara, Kazuki Sugihara, Haruki Kozuka, Jinjie Li, Keisuke Nagato, Moju Zhao, “Adaptive Perching and Grasping by Aerial Robot with Light-weight and High Grip-force Tendon-driven Three-fingered Hand using Single Actuator”, *IEEE International Conference on Robotics and Automation (ICRA)*, Atlanta, USA. [[pdf](#)] [[video](#)]
- [**ICRA'23**] Ziwei Yan, Liang Han, Xiaoduo Li, Jinjie Li, Zhang Ren, “Event-Triggered Optimal Formation Tracking Control Using Reinforcement Learning for Large-Scale UAV Systems”, *IEEE International Conference on Robotics and Automation (ICRA)*, London, United Kingdom, 2023, pp. 3233-3239, doi: 10.1109/ICRA48891.2023.10160532. [[pdf](#)] [[video](#)]

### Others

- Liang Han, Jinjie Li, Zhang Ren, “An Indoor Localization Method based on Invisible Projected Tags”, *Chinese Invention Patent*, 202111154577.4.
- “A Localization Software based on Invisible Projected Fiducial Tags”, *Chinese Software Copyright*, 2022SR0123403.
- “A Large-Scale Heterogeneous Multi-Agent Simulation Platform V1.0”, *Chinese Software Copyright*, 2021SR1039534.

## Practical Experiences

Beihang Aeromodelling Team, Beihang University

Beijing, China

- Development of Heavy Load and High Maneuverability Aircrafts** Nov. 2016 – Oct. 2018  
*Leader of the Composite Material Team & Pilot* Supervisor: Prof. Zhiqiang Wan
  - Developed the composite part of a heavy-load aircraft. Employed carbon and glass fiber reinforced polymer (CGFRP) to make D-box structures, increasing the torsional rigidity to 261.07%. [[blog](#)] Trained to be a pilot as well. [[blog](#)]
  - Won the championship in the 2018 China Aeromodelling Design Challenge (Time-limited Airdrop Project), the best record in history. Reported by *BMFA (British Model Flying Association) News* magazine. [[pdf](#)]

## Skills Summary

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- **Languages:** English (TOEFL iBT 100), Japanese (Beginner), Chinese (Mother Tongue)
- **Coding:** AI Prompt, Python, C/C++, MATLAB, Mathematica, Bash, Git, Data-Oriented Programming, L<sup>A</sup>T<sub>E</sub>X
- **Software:** ROS 1&2, ACADOS, CasADi, Gazebo, PX4, PyTorch, TensorFlow, OpenCV, Pandas, Eigen, Docker
- **Hardware:** NVIDIA Jetson, Raspberry Pi, STM32, Pixhawk, Circuit Design (Altium Designer), CAD (SolidWorks), CNC
- **Hobbies:** Model Airplane (pilot for fixed-wing drones and quadrotors), Photography [[homepage](#)], Tennis, Table Tennis, Ski

## Academic Services

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Serve as reviewers for CDC'23, ICRA'24, IROS'24, IROS'25, and RA-L.