

## **(I) PERSONAL INFORMATION**

**Name:** Youshen Lin

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**Add:** B1-308, 37th Xueyuan Road, Haidian District, Beijing, China



## **(II) SUMMARY**

Has strong research ability and creativity, and is enthusiastic and responsible in learning and work; Current areas of interest: UAV perception, localization, and obstacle avoidance flight.

## **(III) EDUCATION BACKGROUND**

**Sep 2022 - Present**

**Beihang University (BUAA), China**

**Affiliation:** School of Aeronautic Science and Engineering

Degree expected in Jan 2025: **Master of Aeronautical Engineering**

**GPA:** 3.81/4.0 (Weighted average score 90.33)

**Sep 2018 - Jul 2022**

**Beihang University (BUAA), China**

**Affiliation:** School of Aeronautic Science and Engineering

Degree obtained: **Bachelor of Aircraft Design and Engineering**

**GPA:** 3.84/4.0 (Weighted average score 90.9)

Obtaining the qualification of recommended master's degree.

## **(IV) RESEARCH EXPERIENCE**

### **Publications**

[1] Y. Lin, Z. Meng, J. Ji, Z. Wang and W. Gai, "Efficient Perception and Obstacle Avoidance Flight of UAVs in Dynamic Dense Environments," *2024 IEEE International Conference on Robotics and Biomimetics (ROBIO)*. (Under review).

[2] Z. Wang, Z. Meng, Y. Lin, G. Zhao, J. Wang, and C. Jiang, "An Efficient Dynamic Obstacle Perception and Avoidance Framework for Robust Real-Time UAV Trajectory Planning," *IEEE Transactions on Automation Science and Engineering*. (Under review).

[3] LIN Y S, MENG Z J, WANG Z C, et al. Dynamic obstacle perception technology for UAVs based on lidar[J]. *Journal of Beijing University of Aeronautics and Astronautics*, (in Chinese). (Under review).

### **Research Projects**

**Project Name:** Research on Special Configuration Drone System Technology

**Project Period:** Oct 2021 - Aug 2022

**Fund:** China Aerospace Science and Industry Corporation Third Research Institute

**Identity:** Participant

**Advisor:** Professor Meng Zhijun

**Summary:** This project focuses on the research of unmanned aerial vehicle systems with special configurations, and I am responsible for the development of PX4 flight control.

**Project Status:** Completed

**Project Name:** Unmanned Aerial Vehicle Ground Collaborative Inspection System

**Project Period:** Dec 2022 - Dec 2023

**Fund:** Central Research Institute of Building and Construction of MCC Group

**Identity:** Project Leader

**Advisor:** Professor Meng Zhijun

**Summary:** This project develops an air ground collaborative inspection system consisting of ground inspection unmanned vehicles, drone nests, and tethered drones. I am responsible for the development of the tethered drone platform, deployment of a LiDAR based positioning system, and tracking and landing testing of drones based on QR code recognition.

**Project Status:** Completed

**Project Name:** Development and verification of autonomous motion algorithm for quadruped robots for intelligent monitoring and inspection

**Project Period:** Dec 2021 - Aug 2023

**Fund:** China Information Technology Design and Consulting Institute

**Identity:** Project Leader

**Advisor:** Professor Meng Zhijun

**Summary:** The project is a secondary development based on a quadruped robotic dog. I am responsible for deploying the SLAM system on the robotic dog and developing a local motion planning algorithm based on DWA.

**Project Status:** Completed

**Project Name:** Visual guided autonomous landing technology for commercial aircraft

**Project Period:** May 2023 - Present

**Fund:** COMAC Beijing Aircraft Technology Research Institute

**Identity:** Participant

**Advisor:** Professor Meng Zhijun

**Summary:** The content of this project is to obtain the segmentation information of the landing runway through airborne vision under the condition of no instrument landing system, and thus perform autonomous landing. I am responsible for conducting fixed wing landing control based on the runway.

**Project Status:** In progress

**Project Name:** Research on high-speed obstacle avoidance autonomous flight technology for large-scale helicopters

**Project Period:** Sep 2023 - Present

**Fund:** China Helicopter Research and Development Institute

**Identity:** Participant

**Advisor:** Professor Meng Zhijun

**Summary:** The content of this project is the high-speed obstacle avoidance autonomous flight of helicopters in large-scale scenarios. I am responsible for the development and validation of motion planning and control algorithms.

**Project Status:** In progress

## **(V) HONORS AND AWARDS**

**Graduate Academic Scholarship** second prize, 2023.

**Outstanding Graduates** of Beihang University(Bachelor), 2022.

**Undergraduate subject competition scholarship** first prize, 2021.

**Undergraduate Innovation and Entrepreneurship Scholarship** first prize, 2021.

**Outstanding Scholarship for Undergraduate Learning** second prize, 2021.

**Outstanding Scholarship for Undergraduate Learning** second prize, 2020.

In Aug 2021, first prize in the 7th China International "Internet plus" Undergraduate Innovation and Entrepreneurship Competition.

In Aug 2021, represented Beihang University in the 13th Zhou Peiyuan College Student Mechanics Competition team competition and won the third prize.

In April 2021, received Honorable Mention in the American Mathematical Modeling Competition.

In June 2021, received second prize in the 7th MathorCup College Mathematical Modeling Challenge.

In June 2021, won the third prize of the 31th "Feng Ru Cup" Student Academic and Technological Works Award.

In June 2020, won the third prize of the 30th "Feng Ru Cup" Student Academic and Technological Works Award.

## **(VI) English Proficiency**

**Proficiency Test:** CET-6 passed, IELTS 6.5.

## **(VIII) SKILL**

Master C++ and MATLAB, with experience in Python development. Familiar with developing ROS systems in Linux.

Familiar with PX4 development, with experience in quadcopter drone simulation (Gazebo) and hardware development.

Capable of system validation from design and development to flight testing of quadcopter drones.

## **(IX) Referees**

Zhijun Meng, Professor of Aerospace Science and Engineering, Beihang University, mengzhijun@buaa.edu.cn .