(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 in dynamic environments.

(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/RSJ International Conference on Intelligent Robots and Systems (IROS)*. (Under review).

[2] *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, preparing for IELTS

(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 .