

Jinxiang Huang

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EDUCATION

Beijing Institute of Technology (Postgraduate Recommendation)

Sep 2022 - Expected Jun 2025

Major: Instrument Science and Technology

Master

GPA: 3.78/4.0

WAM: 90.2/100

Supervisor: [Prof. Yong Song](#)

Beijing Jiaotong University

Sep 2018 - Jun 2022

Major: Measurement and Control Technology and Instrument

Bachelor

GPA: 3.65/4.0

WAM: 86.5/100

PUBLICATIONS

- [1] **J. Huang**, H. Chang, X. Yang, Y. Liu, et al, (2024) "RDR-KD: A Knowledge Distillation Detection Framework for Drone Scenes" in *IEEE Geoscience and Remote Sensing Letters*, doi: [10.1109/LGRS.2024.3398140](https://doi.org/10.1109/LGRS.2024.3398140). (Q1, IF=4.8)
- [2] X. Yang, **J. Huang**, Y. Liao, Y. Song, et al, (2024) "Light Siamese Network for Long-term Onboard Aerial Tracking" in *IEEE Transactions on Geoscience and Remote Sensing*, doi: [10.1109/TGRS.2024.3397916](https://doi.org/10.1109/TGRS.2024.3397916). (Q1, IF=8.2)
- [3] X. Yang, Y. Song, Y. Zhou, Y. Liao, J. Yang, **J. Huang**, Y. Huang, et al, (2023) "An Efficient Detection Framework for Aerial Imagery Based on Uniform Slicing Window" in *Remote Sensing*, doi: [10.3390/rs15174122](https://doi.org/10.3390/rs15174122). (Q1, IF=5.0)
- [4] J. Yang, X. Yang, Y. Liao, **J. Huang**, et al, (2024) "Multispectral Sample Augmentation and Illumination Guidance for RGB-T Object Detection by MMDetection Framework" in *2024 International Conference on Computer Network and Cloud Computing*. (EI, Accepted)
- [5] S. Liu, G. Wang, Y. Song, **J. Huang**, Y. Huang, Y. Huang, et al, "SiamEFT: Adaptive-Time Feature Extraction Hybrid Network for RGBE Multi-Domain Object Tracking" in *Frontiers in Neuroscience*. (Q2, IF=4.3, Under Review)
- [6] Y. Bai, Y. Song, X. Li, Y. Zhou, F. Dong, X. Yang, Y. Liao, **J. Huang**, "KeyBoxGAN: Enhancing 2D Object Detection Through Annotated and Editable Image Synthesis" in *Applied Intelligence*. (Q2, IF=3.4, Under Review)
- [7] Y. Huang, S. Liu, F. Dong, X. Li, X. Yang, Y. Zhou, **J. Huang**, Y. Song, "PL-MCT: Pseudo Labeling and Multi-frame Consistency Training for Semi-Supervised Visual Tracking" in *Visual Computer*. (Q1, IF=3.0, Under Review)

RESEARCH EXPERIENCES

➤ **Knowledge Distillation Algorithm for Complex Low-Altitude Aerial Scenes**

Sep 2023 - Present

Description: This study aimed to address the dilemma between the limited hardware resources of drone platform and high-precision ground detection.

- Proposed a distillation framework for drone object detection fusing feature distillation and response distillation.
- Solved the problem of low detection accuracy and unbalanced categories of tiny objects in complex low-altitude scenes.
- Published research findings in *IEEE Geoscience and Remote Sensing Letters* (JCR Q1, IF=4.8) as first author and *IEEE Transactions on Geoscience and Remote Sensing* (JCR Q1, IF=8.2) as second author, contributing to advancements in drone object detection and knowledge distillation.

➤ **Air-Ground Cooperative Information Processing System Based on Drone Platform**

Feb 2023 - Sep 2023

Description: This study aimed to combine ground equipment and drone platform for high-precision object detection.

- Collected and built a vehicle and pedestrian dataset using drones (DJI-M300-RTK) in the suburbs of Beijing.
- Designed a tiny object detection network with multi-scale feature fusion and cross-channel interactive attention.
- Proposed a mosaic plus augmentation and crystallization copy-paste augmentation.

➤ **Multi-Object Rotation Detection Algorithm Based on Optical Remote Sensing Images** Sep 2022 - Jun 2023

Description: This study aimed to provide an effective solution for high-precision localization of objects in any direction in optical remote sensing images.

- Designed a one-stage rotating object detection network without anchor.
- As the **team leader**, participated in the AI Challenge competition organized by China Academy of Launch Vehicle Technology and successfully deployed the algorithm to the corresponding environment by using Docker.
- Conducted experimental validation and comparison on remote sensing datasets such as DOTA and HRSC2016 in various scenes.

➤ **Salient Object Detection Algorithm (Outstanding Undergraduate Thesis Award)** Jan 2022 - Jun 2022

Description: This study aimed to identify the most visually appealing objects by mimicking the human visual perception system.

- Developed a salient object detection algorithm based on hybrid loss function and multimodal input.
- Designed a CNN-based salient object detection software using PyQt5 toolkit.

HONORS AND AWARDS

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| • Graduate First Prize Scholarship , Beijing Institute of Technology | 2023 |
| • Outstanding Student , Beijing Institute of Technology | 2023 |
| • Outstanding League Cadres , Beijing Institute of Technology | 2023 |
| • Advanced Individual , Beijing Institute of Technology Graduate Student Association | 2023 |
| • First Academic Scholarship for New Graduate Students , Beijing Institute of Technology | 2022 |
| • Outstanding Individual , Beijing Winter Olympics Volunteers | 2022 |
| • Merit Award , National Undergraduate Training Program for Innovation and Entrepreneurship | 2021 |
| • First Prize at the Beijing Municipal Level , The 11 th Challenge Cup | 2021 |
| • Academic Excellent Scholarship , Beijing Jiaotong University | 2020&2021 |
| • Merit Award , The Third 3D Printing Competition at Tsinghua University | 2020 |

SKILLS & OTHERS

- **Programming:** Advanced in Python, Deep Learning base on PyTorch, Skilled in MATLAB, LaTeX, Ubuntu
- **Software:** PyCharm, Visual Studio Code, TeXstudio
- **Language:** Mandarin (Native), English (CET-4/CET-6, IELTS Preparation), Shaanxi dialect
- **Social Work:** Minister of Student Union (Beijing Institute of Technology), Monitor (Beijing Jiaotong University)
- **Others:** The Host of Beijing Institute of Technology Gala, Climbing, Vlogger, Runner, Cycling (Over 10,000 km)

SOCIAL ACTIVITY

➤ **Chaoyang District People's Government of Beijing Municipality** Sep 2021 - Feb 2022

- Responsible for the cultivation of youth social organizations and volunteer preparations for Beijing Winter Olympics.