Xubo Luo

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EDUCATION

University of Chinese Academy of Sciences　　　　　　　　　Beijing, China

M.S. in Computer Applied Technology　　　　　　　　Sep. 2023 - Present

- GPA: 3.61/4.00; work with Prof. *Xue Wan*
- Relevant coursework: Deep Learning(91), Pattern Recognition and Machine Learning(92)
- Research interests: robotics vision, vision-language navigation, visual localization, and SLAM

Shanghai University of Finance and Economics　　　　　　Shanghai, China

B.E. in Computer Science and Technology　　　　　　Sep. 2019 - Jun. 2023

- GPA: 3.47/4.00 (Rank: 7/55); work with Dr. *Tsz Chiu Kwok*
- Relevant coursework: Linear Algebra(94), Discrete Mathematics(98), Data Structure(91), Computer Network(93)
- Research interests: image fusion, deep learning

SELECTED PUBLICATIONS

Image Fusion

1. **X. Luo**, L. Wang, J. Zhang, D. Niu, "HBANet: A hybrid boundary-aware attention network for infrared and visible image fusion," *Computer Vision and Image Understanding*, 2024. [PDF] [Code]

Visual Localization

2. **X. Luo**, Y. Tian, X. Wan, J. Xu, T. Ke, "Deep learning based cross-view image matching for UAV geo-localization," *International Conference on Service Robotics (ICoSR, oral)*, 2022. [PDF] [Code]

3. **X. Luo**, X. Wan, Y. Gao, Y. Tian, W. Zhang, L. Shu, "JointLoc: A Real-time Visual Localization Framework for Planetary UAVs Based on Joint Relative and Absolute Pose Estimation," *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS, oral)*, 2024. [PDF] [Code]

4. **X. Luo**, Z. Zhao, S. Zhang, X. Wan, W. Zhang, L. Shu, "DVD-MapAL: Deep Visual Feature-Driven Map-Assisted Localization for Planetary Spacecraft Exploration," *IEEE Transactions on Field Robotics (Under review)*, 2024.

RESEARCH EXPERIENCE

Shandong University　　　　　　　　　　　　　　Jul. 2020 - Aug. 2022

Research Assistant to Prof. Caiming Zhang

- Developed algorithms for artifact removal in CT images, improving image quality.
- Implemented multi-modal image fusion techniques (infrared & visible, CT & MRI) to enhance diagnostic accuracy.
- Assisted in medical image segmentation tasks, contributing to the precision of image

analysis.

Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences   Sep. 2022 - Aug. 2023

Research Assistant to Prof. Xue Wan

- Conducted visual localization in earthquake-affected regions using remote sensing images.
- Assisted in the development of a multi-modal benchmark for lunar surface exploration.
- Developed a geography-based visual localization algorithm for drones, enhancing positioning accuracy.

AWARDS & HONORS

- Third Prize Scholarship, Shanghai University of Finance and Economics   2020
- ICPC Regional Competition Honorable Mention   2021
- Honor Graduate, Shanghai University of Finance and Economics   2023
- Student Travel Grant, IEEE Robotics and Automation Society   2024
- First Place in CVPR AI4Space Workshop Challenge   2024

PROFESSIONAL SERVICES

Reviewer to:

- IEEE Robotics and Automation Letters (RAL)
- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
- IEEE/SICE International Symposium on System Integrations (SII 2025)

SKILLS

- Programming languages & Software: C/C++, MATLAB, Python, Linux, etc.
- Languages: Mandarin Chinese (native), English