Xu Pan M.Sc.

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LinkedIn GitHub ResearchGate X Scholar

Education

The State Key Lab. LIESMARS, Wuhan University Wuhan, China

M.Sc. in Cartography and Geographic Information Systems 2023 - 2026 *(expected)*

- GPA: 3.55/4.00, Average Score: 89.40, IELTS: 7.0(6.0)
- Advisor: Prof. Xianwei Zheng
- Research area: Computer Vision and Geographical 3D Reconstruction

School of Remote Sensing and Information Engineering, Wuhan U Wuhan, China

B.Eng. in Remote Sensing Science and Technology 2019 - 2023

- GPA: 3.75/4.00, Average Score: 88.90.

Publications

1. **Xu Pan**, Zimin Xia, Xianwei Zheng. **Scale-aware Co-visible Region Detection for Image Matching**. *ISPRS Journal of Photogrammetry and Remote Sensing*, 2025.
   - Addressed large scale gaps in image matching via a hierarchical framework with Scale Head Attention for robust cross-scale correlation, achieving up to +8.41% precision gain over benchmarks.
2. **Xu Pan**, Qiyuan Ma, Jintao Zhang, Xianwei Zheng. **SAMatcher: Co-Visibility Modeling with Segment Anything for Robust Feature Matching**. *(In Preparation)*, 2026.
   - Enhances image matching under scale variation by leveraging SAM priors to detect semantically consistent co-visible segments and constrain hierarchical matching.
3. **Xu Pan**, Zhenglin Wan, Xingrui Yu. **SG-VLA: Spatially Grounded Vision-Language-Action Learning via Dense Flow Policy Optimization**. *(In Preparation)*, 2026.

Projects

Intelligent Interpretation Platform for Remote Sensing Images Based on Baidu PaddlePaddle

Github Repo: github.com/TwSphinx54/I2RSI 2022.03 - 2022.08

Internships

A*STAR - Centre for Frontier AI Research (CFAR) | Singapore 2025.08 - present

- Pioneered a spatial prior for flow-based VLA models for complex environments, implicit spatial awareness that enhances cross-modal grounding and improves spatial reasoning over challenging scenes.
- Designed a Flow-Matching–based reinforcement learning framework, enabling differentiable trajectory optimization with trustworthy dense action rewarding and achieving more robust vision–language–action alignment.

Baidu, Inc. - Intl. Tech R&D Dept. | Shenzhen, China 2024.12 - 2025.03

- Developed a novel DiT-based video generation framework with key-frame conditioning for controllable, infinite-length synthesis.
- Improved the visual fidelity of rendered text in image generation by designing specialized attention mechanisms.
- Contributed to the **SynClub** AI chat app by evaluating SOTA image generation models and optimizing text-to-image components for better performance and quality.

Academic Activities

2025 Annual Academic Conference on Photogrammetry and Remote Sensing, Chinese Society for Geodesy, Photogrammetry and Cartography (CSGPC)
Kunming, China 2025.07.28 - 2025.07.30

Awards and Honors

- **Outstanding Graduate Student**, Wuhan University 2025.11
- **Graduate Academic Excellence Scholarship**, Wuhan University 2025.11
- **Graduate Academic Excellence Scholarship**, Wuhan University 2024.11
- **Outstanding Student Leader**, Wuhan University 2024.10
- **Outstanding Student Club Leader**, Wuhan University 2024.08
- **Active Contributor to Social Activities**,
  School of Remote Sensing and Information Engineering, Wuhan University 2023.05
- **National Second Prize**,
  China Software Cup College Student Software Design Competition 2022.08
- **Wuhan University Class C Scholarship**, Wuhan University 2022.10
- **Honorable Mention**, Mathematical Contest In Modeling 2022.03
- **Third Prize**, Asia and Pacific Mathematical Contest in Modeling 2021.12
- **First Prize in Hubei Division**,
  China Undergraduate Mathematical Contest in Modeling 2021.10
- **Outstanding Student**, Wuhan University 2021.09
- **Bronze Medal**,
  China Collegiate Algorithm Design & Programming Challenge Contest 2021.03
- **Second Prize in Final**, Translation & Interpreting Contest of Hubei Province 2020.05

Skills

Languages: Mandarin, English (IELTS 7.0).

Programming: `Python`, `C++`, `MATLAB`, `HTML`, `CSS`, `JavaScript`, `C#`, `SQL`, `R`.

Soft Skills: Leadership, Project Management, Event Management, Writing, Public Speaking.

Certificates

System Integration Project Management Engineer
Qualification Certificate of Computer and Software Technology Proficiency

Certificate of Level 4 in Network Engineer
National Computer Rank Examination

Certificate of Level 3 in Network Technology
National Computer Rank Examination

Certificate of Level 3 in Database Technology
National Computer Rank Examination

Volunteer Experience

Chairman of: The 22nd LIESMARS Graduate Student Union.

Director of: GeoScience Café Operation Center.

Volunteer of: 2023/2024 International Graduate Workshop on Geo-Informatics,
The 21st China Ocean Color Conference.