# XU PAN M.Sc.

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## 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: 89.69, IELTS: 6.5(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: Segment Anything Co-Visible 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.

## PROJECTS

**SCoDe**

*Github Repo: github.com/TwSphinx54/SCoDe* — 2023.10 - 2024.03

**Intelligent Interpretation Platform for Remote Sensing Images Based on Baidu PaddlePaddle**

*Github Repo: github.com/TwSphinx54/I2RSI* — 2022.03 - 2024.01

## 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 Conference of the Chinese Society for Geodesy, Photogrammetry and Cartography (CSGPC), Commission on Photogrammetry and Remote Sensing**

*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                  2022.10
- **National Second Prize**,
  China Software Cup College Student Software Design Competition                          2022.08
- **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 6.5).

**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 International Graduate Workshop on Geo-Informatics,
The 21st China Ocean Color Conference.