Zhaoyi Wang

Email: zhaoyi.wang@geod.baug.ethz.ch **GitHub:** https://github.com/zhaoyiww
Mobile: (+41) 78-403-2561

Education

PhD Candidate in Geomatics - Institute of Geodesy and Photogrammetry, ETH Zürich 10/2021 - present
MSc in Precision Metrology - University of Science and Technology of China (USTC) 9/2018 - 6/2021
BSc in Geomatics - Changsha University of Science and Technology (CSUST) [1/102] 9/2014 - 6/2018

Research Interests

- My research focuses on 3D deep learning, cross-modal data fusion (e.g., point clouds and RGB images), and feature extraction. I am particularly interested in applying these methods to point cloud registration and landslide monitoring.

Core skills and competences

- **Expertise**: TLS scanning, UAV, Photogrammetric 3D reconstruction
- **Programming Languages & Tools:** Python, C++, MATLAB, CUDA, Shell scripting, Git, LaTeX, Linux
- **Frameworks & Libraries:** PyTorch, Open3D, OpenCV, COLMAP
- **Software:** Leica Cyclone, RiSCAN PRO, FARO SCENE, Pix4D Mapper, Metashape, CloudCompare, Unity
- **Languages**: Mandarin (Native), English (Professional Working Proficiency)

Professional experiences

Research Intern - Dilusense Company, China 3/2021 – 6/2021
Working on structural light camera calibration and range estimation

Summer School Student - International Geoinformatics Summer School at Wuhan University 8/2020

Exchange Student - Dept. of Land Surveying and Geo-Informatics, Hong Kong Polytechnic University 7/2017

Selected activities and achievements

- Best Presentation Award at the ISPRS Geospatial Week - Laser Scanning Workshop, 2023
- National Scholarship for Postgraduates - USTC, Top 2% (2020)
- Top Grade Scholarship - CSUST, Top 1% (4x, 2015 - 2018)
- Reviewer: ISPRS Journal of Photogrammetry and Remote Sensing

Peer-reviewed publications

Z.Y. Wang, S.Y. Huang, J.A. Butt, Y.Z. Cai, M. Varga, A. Wieser. Cross-Modal Feature Fusion for Robust Point Cloud Registration with Ambiguous Geometry. ISPRS Journal of Photogrammetry and Remote Sensing. (Accepted, 2025)

Z.Y. Wang, J.A. Butt, S.Y. Huang, T. Medić, A. Wieser. Fusion of TLS Point Clouds and Embedded RGB Images for Landslide Monitoring via Dense 3D Displacement Estimation. (In preparation, 2025)

Z.Y. Wang, J.A. Butt, S.Y. Huang, N. Meyer, T. Medić, A. Wieser. An Approach for RGB-Guided Dense 3D Displacement Estimation in TLS-Based Geomonitoring. ISPRS Annals - Laser Scanning Workshop, 2025

Z.Y. Wang, M. Varga, T. Medić, A. Wies er. Assessing the Alignment Between Geometry and Colors in TLS Colored Point Clouds. ISPRS Annals - Laser Scanning Workshop, 2023

Z.Y. Wang, T. Luo, W. Wang, Q.Q. Huang, X. Li. Fixing Positions and Orientations of Laser Trackers During Bundle Adjustment in Multi-Station Measurement. Measurement Science and Technology, 2020

References available on: https://gseg.igp.ethz.ch/people/scientific-assistance/zhaoyi-wang.html