Qinfeng Zhu

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Google Scholar • GitHub • ORCID

Ph.D. Candidate | Panoramic Vision, 3D Vision & Remote Sensing

University of Liverpool • Xi'an Jiaotong-Liverpool University

OPEN TO 2026 RESEARCH INTERNSHIPS | GRADUATING 2027 | SEEKING 2027 FULL-TIME RESEARCH ROLES

500+	13	∼4B	2
Google Scholar citations	first/co-first-author publications	points · 23 classes in SemanticUrban	IJCV manuscripts under review

Research profile. Geometry-aware visual perception across panoramic imagery, 3D point clouds, and remote-sensing data, with an emphasis on sphere-native representation learning, robust dense prediction, multimodal fusion, and real-world benchmark construction for embodied and environmental intelligence.

RESEARCH STRENGTHS

Panoramic & embodied perception

Sphere-native features, rotation-robust dense prediction, and panoramic video/pedestrian tracking for robotic environment understanding.

3D scene intelligence

Point-cloud augmentation, multimodal 3D learning, and fine-grained urban scene understanding.

Earth observation

Semantic segmentation and sensor fusion for aerial, satellite, and multispectral imagery.

Collaborative directions

Landslide susceptibility mapping (several manuscripts under review) and quantum deep learning (ongoing 128-qubit simulation algorithm research).

EDUCATION

Ph.D. in Computer Science — Expected 2027

University of Liverpool &
Xi'an Jiaotong-Liverpool University
Advisor: Dr. Lei Fan

MRes in Computer Science — 2023

University of Liverpool, United Kingdom

ACADEMIC SERVICE

Journal reviewer: TNNLS, TCSVT, T-ITS, TNSE, ISPRS JPRS, PR, NN, ESWA, EAAI, Neurocomputing.

Conference reviewer: ICLR, AAAI, IJCAI, NeurIPS, WACV.

SELECTED RESEARCH & PUBLICATIONS

ONGOING
Panoramic Pedestrian Tracking: Synthetic and Real-World Benchmarks with a New Baseline
Dataset construction and baseline development for panoramic video understanding.

IJCV UNDER REVIEW
Panoramic Scene Understanding: A Survey from Distortion-Aware Engineering to Sphere-Native Modeling
Qinfeng Zhu, Lei Fan. arXiv, 2026.

IJCV UNDER REVIEW
SO3UFormer: Learning Intrinsic Spherical Features for Rotation-Robust Panoramic Dense Prediction
Qinfeng Zhu, Yunxi Jiang, Lei Fan. arXiv, 2026.

ESWA 2026 CO-FIRST
Towards Accurate Urban Scene Understanding Using Point Clouds: The SemanticUrban Dataset
Yuan Fang*, **Qinfeng Zhu***, Yuanzhi Cai, Lei Fan. *Equal contribution.

PR 2024
Advancements in Point Cloud Data Augmentation for Deep Learning: A Survey
Qinfeng Zhu, Lei Fan, Ningxin Weng.

NN 2026
ClassWise-CRF: Category-Specific Fusion for Enhanced Semantic Segmentation of Remote Sensing Imagery
Qinfeng Zhu, Yunxi Jiang, Lei Fan.

IEEE JSTARS 2024
Rethinking Scanning Strategies with Vision Mamba in Semantic Segmentation of Remote Sensing Imagery
Qinfeng Zhu, Yuan Fang, Yuanzhi Cai, Cheng Chen, Lei Fan.

IEEE SENS. J. 2025
IndoorMS: A Multispectral Dataset for Semantic Segmentation in Indoor Scene Understanding
Qinfeng Zhu, Jingjing Xiao, Lei Fan.

OTHER PUBLICATIONS

A Generalised Pre-Training Strategy for Deep Learning Networks in Semantic Segmentation of Remotely Sensed Images
CGI / LNCS, 2026.

From Landslide Conditioning Factors to Satellite Embeddings: Evaluating the Utilisation of Google AlphaEarth for Landslide Susceptibility Mapping Using Deep Learning
Under review, arXiv, 2026.

SwinMamba: A Hybrid Local-Global Mamba Framework for Enhancing Semantic Segmentation of Remotely Sensed Images
Digital Signal Processing, 2026.

Enhancing Environmental Monitoring Through Multispectral Imaging: The WasteMS Dataset for Semantic Segmentation of Lakeside Waste
MMM, 2025.

MSCrackMamba: Leveraging Vision Mamba for Crack Detection in Fused Multispectral Imagery
IEEE BDAI, 2025.

Samba: Semantic Segmentation of Remotely Sensed Images with State Space Model
Heliyon, 2024.

Evaluating the Impact of Point Cloud Colorization on Semantic Segmentation Accuracy
IEEE ICVISP, 2024.

Seg-LSTM: Performance of xLSTM for Semantic Segmentation of Remotely Sensed Images
SSIP, 2024.

Algorithm-Driven Extraction of Point Cloud Data Representing Bottom Flanges of Beams in a Complex Steel Frame Structure for Deformation Measurement
Buildings, 2024.

Complete publication record, projects, code, and datasets:
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