Xiaohan Zhang

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Research Interests

Computer Vision, Deep Learning, Visual Geo-Localization, Information Retrieval, Generative Model, Large Vision-Language Model, AI-driven Therapeutics Discovery, Machine Learning in Computational Biology

Education

2020 – Present	**University of Vermont** – Burlington, Vermont Ph.D. student, Computer Science Advisor: Dr. Safwan Wshah *GPA: 3.91.*
2018 – 2020	**University of California, Santa Cruz** – Santa Cruz, California M.Sc., Computer Engineering Advisor: Dr. Roberto Manduchi *GPA: 3.91.*
2013 – 2017	**Michigan State University** – East Lansing, Michigan B.Sc., Computer Engineering *GPA: 3.26.*

Experience

2020 – Present	**University of Vermont** – Burlington, Vermont Research Assistant in Vermont Artificial Intelligence Laboratory (VaiL).
2019 – 2020	**University of California, Santa Cruz** – Santa Cruz, California Teaching Assistant for CSE 107 Probability and Statistics for Engineers.
2017 – 2017	**Michigan State University** – East Lansing, Michigan Undergrad Research Assistant in the Computer Vision Laboratory supervised by Dr. Xiaoming Liu.

Honors and Awards

2025	IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) Doctoral Consortium Travel Awards
2025	UAVM'25@ACM Multimedia Outstanding Reviewer (ACM MM 2025, 3rd Workshop on UAVs in Multimedia)
2025	IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Outstanding Reviewers

2024	UAVM'24@ACM Multimedia Outstanding Reviewer (ACM MM 2024, 2nd Workshop on UAVs in Multimedia)
2023	Computer Science Graduate Award (The University of Vermont College of Engineering and Mathematical Sciences)
2023	AAAI Student Scholarship (Association for the Advancement of Artificial Intelligence)
2022	Second Prize in UVM Computing Student Research Day (UVM CSRD '22)

Publications

2025   **VICI: VLM-Instructed Cross-view Image-localisation**
Xiaohan Zhang, Tavis Shore, Chen Chen, Oscar Mendez, Simon Hadfield, Safwan Wshah
ACMMM 2025 Workshop UAVs in Multimedia.

2025   **Cross-View Meets Diffusion: Aerial Image Synthesis with Geometry and Text Guidance**
Ahmad Arrabi, **Xiaohan Zhang**, Waqas Sultan, Chen Chen, Safwan Wshah
Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision. 2025.

2024   **Fine-Grained Permeable Surface Mapping through Parallel U-Net**
Nathaniel Ogilvie, **Xiaohan Zhang**, Cale Kochenour, Safwan Wshah
Sensors 2024, 24(7), 2134; https://doi.org/10.3390/s24072134

2024   **GeoDTR+: Toward generic cross-view geolocalization via geometric disentanglement**
Xiaohan Zhang, Xingyu Li, Waqas Sultani, Chen Chen, Safwan Wshah.
IEEE Transactions on Pattern Analysis and Machine Intelligence

2024   **Image and Object Geo-Localization**
Daniel Wilson, **Xiaohan Zhang**, Waqas Sultani, and Safwan Wshah.
International Journal of Computer Vision

2023   **Cross-view Geo-localization via Learning Disentangled Geometric Layout Correspondence**
Xiaohan Zhang, Xingyu Li, Waqas Sultani, Yi Zhou, and Safwan Wshah.
Proceedings of the AAAI Conference on Artificial Intelligence

2023   **Cross-View Image Sequence Geo-localization**
Xiaohan Zhang, Waqas Sultani, and Safwan Wshah.
Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision. 2023.

2022   **LanePainter: Lane Marks Enhancement via Generative Adversarial Network**
Xiaohan Zhang and Safwan Wshah.
2022 26th International Conference on Pattern Recognition (ICPR), Montreal, QC, Canada, 2022, pp. 3668-3675, doi: 10.1109/ICPR56361.2022.9956446.

2022 **Object Tracking and Geo-Localization from Street Images**
Daniel Wilson, Thayer Alshaabi, Colin Van Oort, **Xiaohan Zhang**, Jonathan Nelson, and Safwan Wshah.
Remote Sens. 2022, 14(11), 2575; https://doi.org/10.3390/rs14112575

2022 **Low-light Image Enhancement Using Chain-consistent Adversarial Networks**
Minghao Liu, Jiahao Luo, **Xiaohan Zhang**, Yang Liu, and James Davis.
2022 26th International Conference on Pattern Recognition (ICPR), Montreal, QC, Canada, 2022, pp. 713-719, doi: 10.1109/ICPR56361.2022.9956704.

2021 **Visual and Object Geo-localization: A Comprehensive Survey**
Daniel Wilson, **Xiaohan Zhang**, Waqas Sultani, and Safwan Wshah.
arXiv preprint arXiv:2112.15202

Academic Service

Workshop / Tutorial / Competition Organizer

2025 Tutorial on "Cross-View Geo-Localization: Current Challenges and Future Frontiers", WACV

2026 Tutorial on "Beyond Vision: Multimodal Perspectives for Cross-View Geo-Localization", WACV

Conference Service

2024-2025 The IEEE/CVF Conference on Computer Vision and Pattern Recognition, **Reviewer**

2024 European Conference on Computer Vision, **Reviewer**

2025-2026 AAAI Conference on Artificial Intelligence, **Program Committee**

2025 European Conference on Artificial Intelligence, **Program Committee**

2024-2025 ACM Multimedia Systems Conference, **Reviewer**

Selected Journal Reviewer

IEEE Transactions on Neural Networks and Learning Systems

ISPRS Journal of Photogrammetry and Remote Sensing

IEEE Transactions on Geoscience and Remote Sensing

IEEE Transactions on Circuits and Systems for Video Technology

IEEE Robotics and Automation Letters

MDPI Remote Sensing

npj Drug Discovery