

Shihua Zhang

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BIOGRAPH

I am a second-year Ph.D. student in the Department of Electrical and Computer Engineering at the National University of Singapore, advised by [Prof. Xinchao Wang](#). Prior to joining NUS, I received my M.S. degree from Wuhan University, where I was advised by [Prof. Jiayi Ma](#) and conducted research on image matching. My current research interests include vision language models, video generation, and world models.

EDUCATION EXPERIENCE

xML Lab, National University of Singapore, Singapore	2025 - present
Ph.D. student in Department of Electrical and Computer Engineering, advised by Prof. Xinchao Wang	
Multi-Spectral Vision Processing Lab, Wuhan University, Wuhan, China	2022 - 2025
M.S. in Information and Communication Engineering, advised by Prof. Jiayi Ma	
Electronic Information School, Wuhan University, Wuhan, China	2018 - 2022
B.E. in Electronic Information Engineering	

SELECTED PUBLICATIONS

- 1. Make Geometry Matter for Spatial Reasoning**
ECCV 2026, **Award Candidate, Oral** [\[Paper\]](#) [\[Code\]](#) (VLM, Spatial Reasoning)
Shihua Zhang, Qiuhong Shen, Shizun Wang, Tianbo Pan, Xinchao Wang
- 2. Align Images Before You Generate**
CVPR 2026 [\[Paper\]](#) [\[Code\]](#) (Image and Video Generation)
Shihua Zhang, Qiuhong Shen, Xinchao Wang
- 3. SAG-GNN: Semantic-Aware Guided GNN for Descriptor-Free 2D–3D Matching**
CVPR 2026 [\[Paper\]](#) [\[Code\]](#) (2D–3D Matching)
Shihua Zhang[†], Tianhao Xu[†], Zizhuo Li, Qing Ma, Jiayi Ma
- 4. DeMatch++: Two-View Correspondence Learning via Deep Motion Field Decomposition and Respective Local-Context Aggregation**
TPAMI 2025 [\[Paper\]](#) [\[Code\]](#) (Image Matching)
Shihua Zhang, Zizhuo Li, Jiayi Ma
- 5. Matching While Perceiving: Enhance Image Feature Matching with Applicable Semantic Amalgamation**
AAAI 2025 [\[Paper\]](#) [\[Code\]](#) (Image Matching)
Shihua Zhang[†], Zhenjie Zhu[†], Zizhuo Li, Tao Lu, Jiayi Ma
- 6. DeMatch: Deep Decomposition of Motion Field for Two-View Correspondence Learning**
CVPR 2024 [\[Paper\]](#) [\[Code\]](#) (Image Matching)
Shihua Zhang, Zizhuo Li, Yuan Gao, Jiayi Ma
- 7. DiffGlue: Diffusion-Aided Image Feature Matching**
ACM MM 2024 [\[Paper\]](#) [\[Code\]](#) (Image Matching)
Shihua Zhang, Jiayi Ma
- 8. ConvMatch: Rethinking Network Design for Two-View Correspondence Learning**
AAAI 2023, **Oral** [\[Paper\]](#) [\[Code\]](#)
TPAMI 2024 [\[Paper\]](#) [\[Code\]](#) (Image Matching)
Shihua Zhang, Jiayi Ma

INTERNSHIP

MT Lab, Meitu, Xiamen, China

Monocular 3D object detection

November 2021–January 2022

- Achieve fast and accurate monocular 3D object detection and pose estimation in indoor scenes by an end-to-end network with weak shape supervision.