

YIZHAO WANG

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EDUCATION

Henan Institute of Science and Technology
B.Eng. in Computer Science

Henan, China
2023–2027

- Four-year undergraduate program with a required graduation thesis.
- WAM (Weighted Average Mark): 83.05.
- Major foundation coursework WAM: 88.9.

RESEARCH SKILLS

3D Computer Vision: 3D scene understanding, point-cloud perception, RGB-D reconstruction, monocular depth estimation, 2D-to-3D feature transfer, 3D Gaussian Splatting

Generative & Embodied AI: Text-to-image generation, Rectified Flow, Flow Matching, vision-language-action modeling, few-shot robot manipulation, generative action policies

Learning Methods: Transformer architectures, cross-attention, knowledge distillation, test-time adaptation, prototype learning, uncertainty-aware gating

Research Workflow: Problem formulation, method design, PyTorch prototyping, ablation studies, benchmark evaluation, scientific writing

PUBLICATIONS

- [1] **Yizhao Wang**. “Nexus: Structured Synergy for Efficient Text-to-Image Generation using Rectified Flow Model”. In: *Asian Conference on Computer Vision (ACCV)*. Accepted. 2026.

PREPRINTS

- [2] **Yizhao Wang** et al. “Beyond Similarity Matching: Structured Reasoning for Open-Vocabulary Referring Segmentation in 3DGS”. In: *arXiv* 2026.
- [3] **Yizhao Wang** et al. “Task-Prototype Guided Flow Matching for Few-Shot Generalization in Vision-Language Robot Manipulation”. In: *arXiv* 2026.
- [4] **Yizhao Wang** et al. “Fusion-Aware Direct 3D Gaussian Generation with Structured Patch Latent Flows”. In: *arXiv* 2026.

RESEARCH PROJECTS

Reliability-Gated 2D-to-3D Distillation

Teaching 3D features which views to trust.

3D Representation

Jul. 2026 – Sep. 2026

- Gated frozen DINOv2 feature transfer using cross-view disagreement, depth visibility, and boundary risk, with a geometry-residual branch preserving local 3D structure.
- Reached 69.48% mIoU and 47.31% AP@0.50 on Hypersim and 35.83% mAP@0.25 on ARKitScenes, a 4.35-point detection gain over equal-weight distillation.

Selective Adaptation for LiDAR Segmentation

Point-Cloud Segmentation

Adapting LiDAR without trusting every prediction.

Apr. 2026 – Jun. 2026

- Proposed sampling-conditioned LiDAR test-time adaptation with frame-level signatures, geometry-preserving views, and a frozen gate for selective normalization updates.
- On KITTI-360 under 64-to-16 beam degradation, improved mIoU from 38.46% to 41.53% while reducing the harmful-update rate to 2.86%.

Local-to-Global Metric Depth Calibration

Monocular Depth

Turning relative depth into metric depth, region by region.

Jan. 2026 – Mar. 2026

- Built a boundary-aware region graph combining global affine calibration, selectively activated local residuals, and collapse regularization without camera metadata or sparse depth.
- With frozen Depth Anything V2-Large features, reduced zero-shot DIODE AbsRel from 0.2660 to 0.2358 and increased δ_1 from 0.6680 to 0.7037.

Task-Prototype Guided Flow Matching

Embodied AI

Learning robot skills from a handful of demonstrations.

Oct. 2025 – Dec. 2025

- Designed a few-shot VLA policy using symmetric cross-attention task prototypes, a prototype-adaptive flow prior, gated AdaLN, and episodic support-query training.
- Built the PyTorch/ODE action-generation pipeline for LEROBOT-SO101; achieved 66.8%, 79.6%, and 82.1% success at 1/4/6 shots and 54.3 ms inference at 10 Hz.

HONORS & AWARDS

- Entrepreneurship Star (10k RMB bonus), *Henan Institute of Science and Technology* 2026
- National Innovation Training Program (Project Leader), *Ministry of Education* 2025
- First Prize in the C++ Algorithm Design Contest, *Ministry of IIT* 2025
- First Prize in the Student Business Plan Competition, *Central Committee of the CYLC* 2024