Tao Lu

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🎓 Experience

Brown University, *Postdoc*	2024 – present
Shanghai AI Lab	2023 – 2024
Nanjing University, *PhD student*, Computer Science	2018 – 2023
Nanjing University, *Master student*, Computer Science	2016 – 2018
Southwest Jiaotong University, *Bachelor*, Automation	2012 – 2016

📑 Research Interests

Neural Rendering, 3D Reconstruction, Point Cloud Analysis

📑 Publications (selected)

[1] AnySplat: Feed-forward 3D Gaussian Splatting from Unconstrained Views   *arxiv 2025*

Lihan Jiang*, Yucheng Mao*, Linning Xu, *Tao Lu*, Kerui Ren, Yichen Jin, Xudong Xu, Mulin Yu, Jiangmiao Pang, Feng Zhao, Dahua Lin, Bo Dai

- Foundation model based reconstruction and novel view synthesis.

[2] Octree-GS: Towards Consistent Real-time Rendering with LOD-Structured 3D Gaussians
TPAMI 2025

Kerui Ren*, Lihan Jiang*, *Tao Lu*, Mulin Yu, Linning Xu, Zhangkai Ni, Bo Dai

- Introduce LOD property to manage gaussians, which enables real-time rendering in city-scale scene.

[3] Scaffold-GS: Structured 3D Gaussians for View-Adaptive Rendering   *CVPR 2024*

Tao Lu, Mulin Yu*, Linning Xu, Yuanbo Xiangli, Limin Wang, Dahua Lin, Bo Dai

- Introduce structured anchors, converging faster, using fewer primitives, and achieving better visual quality.

[4] GSDF: 3DGS Meets SDF for Improved Rendering and Reconstruction   *NeurIPS 2024*

Mulin Yu*, *Tao Lu*, Linning Xu, Lihan Jiang, Yuanbo Xiangli, Bo Dai

- Dual-branch design for improving geometry reconstruction and rendering simultaneously.

[5] LinK: Linear Kernel for LiDAR-based 3D Perception   *CVPR 2023*

Tao Lu, Xiang Ding, Haisong Liu, Gangshan Wu, Limin Wang

- Scaling up the 3D kernel size with linear complexity to handle sparse LiDAR data.

[6] CGA-Net: Category Guided Aggregation for Point Cloud Semantic Segmentation   *CVPR 2021*

Tao Lu, Limin Wang, Gangshan Wu

- A heterogeneous aggregator to alleviate the category-level imbalance in standard aggregators.

[7] APP-Net: Auxiliary-Point-Based Push and Pull Operations for Efficient Point Cloud Recognition   *Transactions on Image Processing(TIP)*

Tao Lu, Chunxu Liu, Youxin Chen, Gangshan Wu, Limin Wang

- Fast and memory-efficient, throughput > $10k$ fps on one RTX 2080Ti GPU;

[8] CamLiFlow: Bidirectional Camera-LiDAR Fusion for Joint Optical Flow and Scene Flow Estimation   *CVPR 2022*

Haisong Liu, *Tao Lu*, Yihui Xu, Jia Liu, Wenjie Li, Lijun Chen

- Fusing the camera and LiDAR branches bidirectionally in a multi-stage manner;

⚙ Services

- Reviewer: CVPR, ICCV, ECCV, NeurIPS, Siggraph, Siggraph Asia, AAAI, IROS, TPAMI, IJCV.