Dingkang Liang

Ph.D student
Huazhong University of Science and Technology
My research interests mainly include 3D Vision, Embodied Vision, and Dense Object Analysis.

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Education

- **Huazhong University of Science and Technology, China** *2022.09-2026.06*
  Ph.D student

Experience

- **Baidu Inc.** *2022.08-*
  Research Intern, Focused on 3D Vision for Autonomous Driving Shanghai

Funding

- **National Natural Science Foundation of China (NSFC) for Young Student Basic Research Project**
  Principal Investigator, 4,7000 USD Grant

Publications (*Co-first author, †Project Lead, ✉Corresponding author)

Dense Object Analysis

Dingkang Liang*, Jiahao Xie*, Zhikang Zou, Xiaoqing Ye, Wei Xu, Xiang Bai. CrowdCLIP: Unsupervised Crowd Counting via Vision-Language Model. CVPR, 2023.

Dingkang Liang, Wei Xu, Xiang Bai. An End-to-End Transformer Model for Crowd Localization. ECCV, 2022.

Dingkang Liang, Wei Xu, Yingying Zhu, Yu Zhou. Focal inverse distance transform maps for crowd localization. IEEE TMM, 2022. (ESI Highly Cited Paper)

Dingkang Liang, Xiwu Chen, Wei Xu, Yu Zhou, Xiang Bai. TransCrowd: Weakly-Supervised Crowd Counting with Transformers. Science China Information Science, 2022. (ESI Highly Cited Paper)

Chenfeng Xu*, Dingkang Liang*, Yongchao Xu, Song Bai, Wei Zhan, Xiang Bai, Massayoshi Tomizuka. AutoScale: Learning to Scale for Crowd Counting. IJCV, 2022.

Wei Hua*, Dingkang Liang*, Jingyu Li, Xiaolong Liu, Zhikang Zou, Xiaoqing Ye, Xiang Bai. SOOD: Towards Semi-Supervised Oriented Object Detection. CVPR, 2023.

Dingkang Liang, Wei Hua, Chunsheng Shi, Zhikang Zou, Xiaoqing Ye, Xiang Bai. SOOD++: Leveraging Unlabeled Data to Boost Oriented Object Detection. Arxiv, 2024.

3D Understanding

Dingkang Liang*, Tianrui Feng*, Xin Zhou*, Yumeng Zhang, Zhikang Zou, Xiang Bai. Parameter-Efficient Fine-Tuning in Spectral Domain for Point Cloud Learning. IEEE TPAMI, 2025.

Dingkang Liang*, Xin Zhou*, Wei Xu, Xingkui Zhu, Zhikang Zou, Xiaoqing Ye, Xiao Tan, Xiang Bai. PointMamba: A Simple State Space Model for Point Cloud Analysis. NeurIPS, 2024.

Xin Zhou*, Dingkang Liang*†, Sifan Tu, Xiwu Chen, Yikang Ding†, Dingyuan Zhang, Feiyang Tan, Hengshuang Zhao, Xiang Bai. A Unified Self-Driving World Model for Simultaneous 3D Scene Understanding and Generation. ICCV, 2025.

Dingyuan Zhang*, Dingkang Liang*, Zichang Tan, Xiaoqing Ye, Cheng Zhang, Jingdong Wang, Xiang Bai. Make Your ViT-based Multi-view 3D Detectors Faster via Token Compression. ECCV, 2024.

Xin Zhou*, Dingkang Liang*, Wei Xu, Xingkui Zhu, Yihan Xu, Zhikang Zou, Xiang Bai. Dynamic Adapter Meets Prompt Tuning: Parameter-Efficient Transfer Learning for Point Cloud Analysis. CVPR, 2024.

Xinwei He*, Silin Cheng*, Dingkang Liang*, Song Bai, Xi Wang, Yingying Zhu. LATFormer: Locality-Aware Point-View Fusion Transformer for 3D Shape Recognition. Pattern Recognition, 2024.

Dingyuan Zhang*, Dingkang Liang*, Zhikang Zou*, Jingyu Li, Xiaoqing Ye, Zhe Liu, Xiao Tan, Xiang Bai. A Simple Vision Transformer for Weakly Semi-Supervised 3D Object Detection. ICCV, 2023.

Jingyu Li*, Zhe Liu*, Jinghua Hou, Dingkang Liang✉. DDS3D: Dense Pseudo-Labels with Dynamic Threshold for Semi-Supervised 3D Object Detection. ICRA, 2023.

Haoyu Fu*, Diankun Zhang*, Zongchuang Zhao*, Jianfeng Cui, Dingkang Liang†, Chong Zhang, Dingyuan Zhang, Hongwei Xie†, Bing Wang, Xiang Bai. ORION: A Holistic End-to-End Autonomous Driving Framework by Vision-Language Instructed Action Generation. ICCV, 2025.

Jinghua Hou*, Zhe Liu*, Dingkang Liang, Zhikang Zou, Xiaoqing Ye, Xiang Bai. Query-based Temporal Fusion with Explicit Motion for 3D Object Detection. NeurIPS, 2023.

Wei Xu*, Chunsheng Shi*, Sifan Tu, Xin Zhou, Dingkang Liang, Xiang Bai. A Unified Framework for 3D Scene Understanding. NeurIPS, 2024.

Competitions

1st place in the ECCV 2024 FishNet Classification Challenge.

2nd place in The First Dataset Distillation Challenge (ECCV 2024) on the Fixed IPC Track.

1st place of the Crowd Counting track in Vision Meets Drone (VisDrone) challenge with ICCV 2021.

1st place of the Crowd Counting track in Vision Meets Drone (VisDrone) challenge with ECCV 2020.

1st place (14,000 USD Bonus) of the Crowd Counting track in CV101 (held by Extremevision and Intel), 2019.

1st place (11,000 USD Bonus) of the OpenVino track in CV101 (held by Extremevision and Intel), 2019.

Academic Services

Outstanding reviewer at ICCV 2023 and CVPR 2025.

Reviewer of IEEE TPAMI, IEEE TIP, IJCV, CVPR, ECCV, ICCV, NeurIPS, ICML, ICLR, and ICRA.