

# Xin Li

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Degree	University	Major	Year	Supervisor
PhD	East China Normal University (985&211)	Computer Sci. and Tech.	2021-now	Liang He
MSc	East China Normal University (985&211)	Computer Sci. and Tech.	2019-21	Liang He
Bachelor	China University of Petroleum (East China)(211)	Computer Sci. and Tech.	2015-19	-

## Research Interests

- *multi-sensor fusion, temporal fusion, incremental learning* in 3D object detection, 3D semantic segmentation for autonomous driving.

## Experience

- **Autonomous Driving Group (ADG), Shanghai AI Lab** (June'21-Now)
  - Research Intern, supervised by Dr. Botian Shi and Yikang Li
  - Participated Projects:
    - [1]. **Algorithm research and development:** Responsible for continuous optimization of algorithm performance in the direction of multi-modal fusion and multi-frame fusion. Based on the multi-modal fusion of lidar and images, we proposed a multi-modal method LoGoNet. It has surpassed all the latest methods on the Waymo 3D object detection Leaderboard, **ranked 1** (Oct. 2022), and the paper accepted by CVPR2023.
    - [2]. **Offline auto-labeling algorithm**, improved the 3d detection performance, participated in the development of the offline algorithm, developed offline perception algorithm DetZero, achieved **85.15 mAPH(L2)** in Waymo3D object detection Leaderboard performance, **ranked 1** ( Mar. 2023)

## Representative Publications

- [1]. **LoGoNet: Towards Accurate 3D Object Detection with Local-to-Global Cross-Modal Fusion**  
Xin Li, Tao Ma, Yuenan Hou, Botian Shi, Yuchen Yang, Youquan Liu, Xingjiao Wu, Qin Chen, Yikang Li, Yu Qiao, Liang He  
*Computer Vision and Pattern Recognition Conference* [CVPR 2023]
- [2]. **Homogeneous Multi-modal Feature Fusion and Interaction for 3D Object Detection**  
Xin Li, Botian Shi, Yuenan Hou, Xingjiao Wu, Tianlong Ma, Yikang Li, Liang He  
*European Conference on Computer Vision 2022* [ECCV 2022]
- [3]. **Benchmarking 3D Perception Robustness to Common Corruptions and Sensor Failure**  
Lingdong Kong\*, Youquan Liu\*, Xin Li\*, Runnan Chen, Wenwei Zhang, Jiawei Ren, Liang Pan, Kai Chen, Ziwei Liu  
*ICLR Workshop on Scene Representations for Autonomous Driving 2023* [ICLRW 2023, Best Workshop Paper Award]
- [4]. **SCPNet: Semantic Scene Completion on Point Cloud**  
Zhaoyang Xia, Youquan Liu, Xin Li, Xinge Zhu, Yuexin Ma, Yikang Li, Yuenan Hou, Yu Qiao  
*Computer Vision and Pattern Recognition Conference* [CVPR 2023, Highlight]
- [5]. **DetZero: Rethinking Offboard 3D Object Detection with Long-term Sequential Point Clouds**  
Tao Ma, Xuemeng Yang, Hongbin Zhou, Xin Li, Botian Shi, Junjie Liu, Yuchen Yang, Zhizheng Liu, Liang He, Yu Qiao, Yikang Li, Hongsheng Li  
*International Conference and Computer Vision* [ICCV 2023]
- [6]. **Robo3d: Towards robust and reliable 3d perception against corruptions**  
Lingdong Kong\*, Youquan Liu\*, Xin Li\*, Runnan Chen, Wenwei Zhang, Jiawei Ren, Liang Pan, Kai Chen, Ziwei Liu  
*International Conference and Computer Vision* [ICCV 2023]
- [7]. **Multi-modal sensor fusion for auto driving perception: A survey**  
Keli Huang, Botian Shi, Xiang Li, Xin Li, Siyuan Huang, Yikang Li  
[Preprint]

## Academic Service

- **Reviewer** for NeurIPS, CVPR, ICCV, ECCV, AAAI.

## Projects

- **Drive Like a Human: Rethinking Autonomous Driving with Large Language Models** *(Apr.'21-Now)*
  - <https://github.com/PJLab-ADG/DriveLikeAHuman>
- **Offline auto-labeling algorithm** *(Oct.'21-Mar.'23)*
  - <https://github.com/PJLab-ADG/DetZero>
  - Rank **1st** on WOD 3D Detection Leaderboard with 85.15 mAPH(L2)

## Awards

- National Scholarship for Graduate Students, ECNU, 2020.
- Outstanding Student Cadres of Shandong Province, UPC, 2018.