

ZHU Xinge

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[Homepage](#) \diamond [Google Scholar](#)

INDUSTRIAL EXPERIENCE

HUAWEI

Aug. 2021 - present

TopMinds, Tech LEAD

Lead a team working on cutting-edge and product-level multi-modality 3D perception for autonomous vehicles

INCEPTIO

Apr. 2020 - June. 2021

Research Consultant:

Propose original and competitive point-cloud segmentation and detection solutions and achieve multiple challenge champions and runner-ups

EDUCATION

MMLab, CUHK

Sep. 2018 - July. 2021

PhD

- **Research Interest:** Autonomous Vehicles; Computer Vision; 3D Vision

Shandong University

July. 2011 - July. 2015

Bachelor

PUBLICATIONS

30+ accepted papers with **2000+** citations, including TPAMI, IJCV, CVPR, ICCV, ECCV, etc.
Full list in [Homepage](#) and [Google Scholar](#).

CHALLENGES

- Waymo Camera-only 3D Detection, rank 2nd, 2022.8
- SemanticKITTI Multi-Scan Semantic Segmentation, rank 1st, 2021.1
- NuScenes Camera-based 3D Detection, rank 1st, 2020.12
- NuScenes LiDAR Semantic Segmentation, rank 2nd, 2020.12
- SemanticKITTI Semantic Segmentation, rank 1st, 2020.11
- SemanticKITTI Panoptic Segmentation, rank 1st, 2020.11
- Lyft 3D Detection challenge, Gold Medal, 4/520, 2019.07
- NuScenes 3D Detection challenge, Gold Medal (Runner-up), 2/13, 2019.03

TALKS

- Talk at SUSTech about 2D and 3D Detection, Mar 2022.
- Talk at ShanghaiTech University about 2D and 3D Detection, Spring 2021.
- Zhidx Open Talk about Large-scale Point-cloud Segmentation, Summer 2021.

- Open Talk at JiangTech for CVPR 2021, Summer 2021.

SELECTED PUBLICATIONS

★ 3D Vision:

Xidong Peng, **Xinge Zhu**, Yuexin Ma. CL3D: Unsupervised Domain Adaptation for Cross-LiDAR 3D Detection. AAAI2023.

Peishan Cong, **Xinge Zhu**, Feng Qiao, Yiming Ren, Xidong Peng, Yuenan Hou, Lan Xu, Ruigang Yang, Dinesh Manocha, Yuexin Ma. STCrowd: A Multimodal Dataset for Pedestrian Perception in Crowded Scenes. CVPR2022

Yuenan Hou, **Xinge Zhu**, Yuexin Ma, Chen Change Loy, Yikang Li. Point-to-Voxel Knowledge Distillation for LiDAR Semantic Segmentation. CVPR2022

Xidong Peng, **Xinge Zhu**, Yuexin Ma. SIDE: Center-based Stereo 3D Detector with Structure-aware Instance Depth Estimation. WACV2022

Xinge Zhu, Hui Zhou, Tai Wang, Fangzhou Hong, Yuexin Ma, Wei Li, Hongsheng Li, Dahua Lin. Cylindrical and Asymmetrical 3D Convolution Networks for LiDAR Segmentation, **CVPR2021(Oral)**, rank 1st in LiDAR Semantic Segmentation of SemanticKITTI

Xiao Song, Guorun Yang, **Xinge Zhu**, Hui Zhou, Yuexin Ma, Zhe Wang, Jianping Shi. AdaStereo: An Efficient Domain-Adaptive Stereo Matching Approach. IJCV2022.

Xinge Zhu, Hui Zhou, Tai Wang, Fangzhou Hong, Wei Li, Yuexin Ma, Hongsheng Li, Ruigang Yang, Dahua Lin. Cylindrical and Asymmetrical 3D Convolution Networks for LiDAR-based Perception. TPAMI2021

Xinge Zhu, Yuexin Ma, Tai Wang, Yan Xu, Jianping Shi, Dahua Lin. SSN: Shape Signature Networks for Multi-class Object Detection from Point Clouds. ECCV2020.

Fangzhou Hong, Hui Zhou, **Xinge Zhu**, Hongsheng Li, Ziwei Liu, LiDAR-based Panoptic Segmentation via Dynamic Shifting Network, CVPR2021, **rank 1st in LiDAR Panoptic Segmentation of SemanticKITTI**

Tai Wang, **Xinge Zhu**, Dahua Lin. Reconfigurable Voxels: A New Representation for LiDAR-Based Point Clouds. CoRL2020.

Yan Xu, Zhaoyang Huang, Kwan-Yee Lin, **Xinge Zhu**, Jianping Shi, Hujun Bao, Guofeng Zhang, Hongsheng Li. SelfVoxelO: Self-supervised LiDAR Odometry with Voxel-based Deep Neural Networks. CoRL2020

Yan Xu, **Xinge Zhu**, Jianping Shi, Guofeng Zhang, Hujun Bao, Hongsheng Li. Depth Completion from Sparse LiDAR Data with Depth-Normal Constraints. ICCV2019.

Xinge Zhu, Zhichao Yin, Jianping Shi, Hongsheng Li, Dahua Lin. Generative Adversarial Frontal View to Bird View Synthesis. 3DV2018(Oral).

★ Domain Adaptation:

Xinge Zhu, Hui Zhou, Ceyuan Yang, Jianping Shi, Dahua Lin. Penalizing Top Performers: Conservative Loss for Semantic Segmentation Adaptation. ECCV2018.

Xinge Zhu, Jiangmiao Pang, Ceyuan Yang, Jianping Shi, Dahua Lin. Adapting object detectors via selective cross-domain alignment. CVPR2019.

Ruoqi Sun*, **Xinge Zhu***, Chongruo Wu, Chen Huang, Jianping Shi, Lizhuang Ma. Not all areas are equal: Transfer learning for semantic segmentation via hierarchical region selection. CVPR2019(Oral).

Xiao Song, Guorun Yang, **Xinge Zhu**, Hui Zhou, Zhe Wang, Jianping Shi. AdaStereo: A Simple and Efficient Approach for Adaptive Stereo Matching. CVPR2021

Wanli Chen, **Xinge Zhu**, Ruoqi Sun, Junjun He, Ruiyu Li, Xiaoyong Shen, Bei Yu. Tensor Low-Rank Reconstruction for Semantic Segmentation. ECCV2020

★ Trajectory Prediction:

Ma, Yuexin* and **Zhu, Xinge*** and Cheng, Xinjing and Yang, Ruigang and Liu, Jiming and Manocha, Dinesh AutoTrajectory: Label-free Trajectory Extraction and Prediction from Videos using Dynamic Points, ECCV2020.

Yuexin Ma, **Xinge Zhu**, Sibozhang, Ruigang Yang, Wenping Wang, Dinesh Manocha. TrafficPredict: Trajectory prediction for heterogeneous traffic-agents. AAAI2019(Oral).

AWARDS

- ★ FCOS3D got the best paper award on the ICCV 3DODI workshop, 2021
- ★ Golden Medal (Runner-up), Shandong Provincial Collegiate Programming Contest 2013
- ★ Top100, Baidu A-Star Programming Contest 2013
- ★ Bronze Medal, The ACM/ICPC Asia Regional Contest ChengDu Site 2013
- ★ Silver Medal, The ACM/ICPC Asia Regional Contest TongHua Site (Invitational) 2013

PROFICIENCY AND SKILLS

◆ **Computer Languages:** Python, C++, Java

◆ **Tools:** PyTorch, Git, LaTeX, OpenCV