

# Jun CEN

Ph.D. in The Hong Kong University of Science and Technology

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## Education

- *The Hong Kong University of Science and Technology* (Sep'20-Aug'24)
  - Ph.D. in Robotics, supervised by Prof. Qifeng Chen, Michael Wang
- *The Hong Kong University of Science and Technology* (Sep'19-Aug'20)
  - MSc in Mechanical Engineering, supervised by Prof. Lilong Cai
- *Zhejiang University* (Sep'15-Aug'19)
  - Bachelor in Mechatronics Engineering, supervised by Prof. Jinghua Xu

## Research Interests

- LLM-based multi-modality learning. Open-set recognition and incremental learning in 2D/3D semantic segmentation, 3D object detection, image/video recognition, etc.

## Work Experience

- *DAMO Academy, Alibaba Group* (Aug'24-Now)
  - Algorithm Expert, focus on multi-modality model

## Internship Experience

- *CVIP Group, Southern University of Science and Technology* (Sep'23-Jul'24)
  - Visiting Student, supervised by Prof. Jianguo Zhang
- *NLC Group, Microsoft Research Asia* (Sep'23-Apr'24)
  - Research Intern, supervised by Chenfei Wu, Nan Duan
- *MMLab, Nanyang Technological University; Shanghai AI Lab* (Mar'23-Aug'23)
  - Visiting Student, supervised by Prof. Ziwei Liu
- *DAMO Academy, Alibaba Group* (Mar'22-Mar'23)
  - Research Intern, supervised by Shiwei Zhang, Yingya Zhang, Deli Zhao
- *Autonomous Driving Group, Hikvision* (Mar'20-Jul'20)
  - Algorithm Engineer, supervised by Yushi Zhu
- *Robotics and Artificial Intelligence Laboratory, The Chinese University of Hong Kong (SZ)* (Oct'19-Jan'20)
  - Research Assistant, supervised by Prof. Tin Lun Lam

## Representative Publications

- [1]. **Using Left and Right Brains Together: Towards Vision and Language Planning**  
Jun CEN\*, Chenfei Wu\*, Xiao Liu, Shengming Yin, Yixuan Pei, Jinglong Yang, Qifeng Chen, Nan Duan, Jianguo Zhang  
*International Conference on Machine Learning [ICML 2024]*
- [2]. **CMDFusion: Bidirectional Fusion Network with Cross-modality Knowledge Distillation for LIDAR Semantic Segmentation**  
Jun CEN, Shiwei Zhang, Yixuan Pei, Kun Li, Hang Zheng, Maochun Luo, Yingya Zhang, Qifeng Chen  
*Robotics and Automation Letters [RA-L 2024]*

- [3]. **SAD: Segment Any RGBD**  
Jun CEN, Yizheng Wu, Kewei Wang, Xingyi Li, Jingkang Yang, Yixuan Pei, Lingdong Kong, Ziwei Liu, Qifeng Chen  
*Conference on Neural Information Processing Systems 2023 Workshop* [[NeurIPS 2023 Workshop](#)]  
700+ stars on Github, 1K+ Likes and 140K+ Views on Twitter
- [4]. **Enlarge Instance-specific and Class-specific Information for Open-set Action Recognition**  
Jun CEN, Shiwei Zhang, Xiang Wang, Yixuan Pei, Zhiwu Qing, Yingya Zhang, Qifeng Chen  
*Computer Vision and Pattern Recognition Conference 2023* [[CVPR 2023](#)]
- [5]. **The Devil is in the Wrongly-classified Samples: Towards Unified Open-set Recognition**  
Jun CEN\*, Di Luan\*, Shiwei Zhang, Yixuan Pei, Yingya Zhang, Deli Zhao, Shaojie Shen, Qifeng Chen  
*International Conference on Learning Representations 2023* [[ICLR 2023](#)]
- [6]. **Open-world Semantic Segmentation for LIDAR Point Clouds**  
Jun CEN, Peng Yun, Shiwei Zhang, Junhao Cai, Di Luan, Mingqian Tang, Michael Yu Wang, Ming Liu  
*European Conference on Computer Vision 2022* [[ECCV 2022](#)]
- [7]. **Open-set 3D Object Detection**  
Jun CEN, Peng Yun, Junhao Cai, Michael Yu Wang, Ming Liu  
*International Conference on 3D Vision 2021* [[3DV 2021](#)]
- [8]. **Deep Metric Learning for Open World Semantic Segmentation**  
Jun CEN, Peng Yun, Junhao Cai, Michael Yu Wang, Ming Liu  
*International Conference on Computer Vision 2021* [[ICCV 2021](#)]

#### Other Publications

- [1]. **iControl3D: An Interactive System for Controllable 3D Scene Generation**  
Xingyi Li, Yizheng Wu, Jun CEN, Juewen Peng, Kewei Wang, Ke Xian, Zhe Wang, Zhiguo Cao, Guosheng Lin  
*ACM Multimedia 2024* [[ACMMM 2024](#)]
- [2]. **Consistent Prompting for Rehearsal-Free Continual Learning**  
Zhanxin Gao, Jun CEN, Xiaobin Chang  
*Computer Vision and Pattern Recognition Conference 2024* [[CVPR 2024](#)]
- [3]. **Self-Supervised Motion Learning from LiDAR Point Clouds with Spatial and Temporal Consistency**  
Kewei Wang, Yizheng Wu, Jun CEN, Zhiyu Pan, Xingyi Li, Zhiguo Cao, Guosheng Lin  
*Computer Vision and Pattern Recognition Conference 2024* [[CVPR 2024](#)]
- [4]. **CLIP-guided Prototype Modulating for Few-shot Action Recognition**  
Xiang Wang, Shiwei Zhang, Jun CEN, Changxin Gao, Yingya Zhang, Deli Zhao, Nong Sang  
*International Journal of Computer Vision* [[IJCV 2023](#)]
- [5]. **Segment Any Point Cloud Sequences by Distilling Vision Foundation Models**  
Youquan Liu\*, Lingdong Kong\*, Jun CEN, Runnan Chen, Wenwei Zhang, Liang Pan, Kai Chen, Ziwei Liu  
*Conference on Neural Information Processing Systems 2023* [[NeurIPS 2023](#)]
- [6]. **4D Panoptic Scene Graph Generation**  
Jingkang Yang, Jun CEN, Wenxuan Peng, Shuai Liu, Fangzhou Hong, Xiangtai Li, Kaiyang Zhou, Qifeng Chen, Ziwei Liu  
*Conference on Neural Information Processing Systems 2023* [[NeurIPS 2023](#)]
- [7]. **Learning a Condensed Frame for Memory-Efficient Video Class-Incremental Learning**  
Yixuan Pei, Zhiwu Qing, Jun CEN, Xiang Wang, Shiwei Zhang, Yaxiong Wang, Mingqian Tang, Nong Sang, Xueming Qian  
*Conference on Neural Information Processing Systems 2022* [[NeurIPS 2022](#)]
- [8]. **Real-Time Collision-Free Grasp Pose Detection With Geometry-Aware Refinement Using High-Resolution Volume**  
Junhao Cai, Jun CEN, Haokun Wang, Michael Yu Wang  
*Robotics and Automation Letters 2022* [[ICRA with R-AL 2022](#)]

- [9]. **Conflicts between Likelihood and Knowledge Distillation in Task Incremental Learning for 3D Object Detection**  
Peng Yun, Jun CEN, Ming Liu  
*International Conference on 3D Vision 2021* [3DV 2021]
- [10]. **BORM: Bayesian Object Relation Model for Indoor Scene Recognition**  
Liguang Zhou, Jun CEN, Xingchao Wang, Zhenglong Sun, Tin Lun Lam, Yangsheng Xu  
*International Conference on Robotics and Systems 2021* [IROS 2021]
- [11]. **Precision forward design for 3D printing using kinematic sensitivity via Jacobian matrix considering uncertainty**  
Jinghua Xu, Xueqing Feng, Jun CEN, Shuyou Zhang  
*The International Journal of Advanced Manufacturing Technology* 2020

#### Professional Service

- **Reviewer** for TPAMI, TNNLS, NeurIPS, ICML, ICLR, CVPR, ICCV, ICRA, IROS

#### Projects

- **Life-long Learning System for 3D Object Detection in Autonomous Driving** (Jan'21-Jan'22)
  - HKJRI-52, Kaisa Seed Project, supervised by Prof. Michael Yu Wang

#### Patents

- 行为识别方法、装置、设备和存储介质, 岑俊、张士伟、吕逸良、赵德丽, 中国发明专利 (已授权), CN115035463B
- 视频处理方法及设备, 岑俊、裴逸璇、张士伟、吕逸良、赵德丽, 中国发明专利 (已授权), CN115205763B

#### Awards

- Outstanding Research Intern, Alibaba Group, 2023. (15 candidates per year)
- Overseas Research Award, 2023, HKUST
- Postgraduate Studentship, 2020-2024, HKUST
- School of Engineering Excellent Student Scholarship, 2019-2020, HKUST. (Top 5%)
- School of Engineering Entrance Scholarship, 2019-2020, HKUST. (Top 2%)