Jun CEN

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Degree	University	Major	Year	Supervisor	GPA
PhD	HKUST	Robotics	2020-now	Qifeng Chen, Michael Wang	3.98/4.3
MSc	HKUST	Mechanical	2019-20	Lilong Cai	3.99/4.3
Bachelor	Zhejiang University	Mechatronics	2015-19	Jinghua Xu	3.82/4.0

Research Interests

- **Life-long Learning**: *open-set recognition* and *incremental learning* in 2D/3D semantic segmentation, 3D object detection, image/video recognition, etc.

Experience

- ***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 Dr. Shiwei Zhang
- ***Autonomous Driving Group, HIKVISION*** *(Mar'20-Jul'20)*
  - Algorithm Engineer, supervised by Dr. 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]. **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
[Under Review]

[2]. **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 [CVPR 2023]

[3]. **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]

[4]. **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]

[5]. **Open-set 3D Object Detection**
Jun Cen, Peng Yun, Junhao Cai, Michael Yu Wang, Ming Liu
International Conference on 3D Vision 2021 [3DV 2021]

[6]. **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]

[7]. **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]

Other Publications

[1]. **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]

[2]. **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]

[3]. **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]

[4]. **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 T-PAMI, NeurIPS, CVPR, ICCV, ICRA, IROS, JAS (中国自动化学报)

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
- **Segment Any RGBD** *(April'23-April'23)*
  - https://github.com/Jun-CEN/SegmentAnyRGBD
  - More than 400 stars on Github, and more than 1K Likes and 130K Views on Twitter!

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), 202210952356X
- 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), 202211099158X

Awards

- Outstanding Research Intern, Alibaba Group, 2023. (4 candidates for computer vision 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%)