Yue Hu

Email: 18671129361@sjtu.edu.cn Homepage: https://phyllish.github.io/
Google Scholar Profile: Yue Hu

Research Interests

My research interests lie in collective intelligence. My work has examined the intersection of communication and machine-machine collaboration.

- Communication-Efficient Multi-Agent Systems
    Vehicle-to-Everything Autonomous Driving System, Collaborative Perception
- VLM & LLM-Empowered Multi-Agents
- Visual Understanding
    Aerial 3D Detection and Tracking, Human-Object Interaction

Education

- PhD - Information and Telecommunication Engineering *Sep 2021 - Present*
    Shanghai Jiao Tong University, Shanghai, China Advisor Siheng Chen
- Master - Electronic Engineering *July 2017 - March 2020*
    Shanghai Jiao Tong University, Shanghai, China
- Summer Exchange - Information Engineering *July 2015 - Aug 2015*
    University of Melbourne, Melbourne, Australia
- Bachelor - Information Engineering *September 2013 - July 2017*
    Shanghai Jiao Tong University, Shanghai, China

Working Experience

- **Teaching Assistant** at Computer Vision Class *April 2022 - Sep 2022*
- **Research Engineer** at Megvii (Face++) *April 2020 - May 2021*
- **Research Intern** at Megvii(Face++) *June 2019 - Oct 2019*

Publication

1. **Yue Hu**, Juntong Peng, Sifei Liu, Junhao Ge, Si Liu, Siheng Chen, *Communication-Efficient Collaborative Perception via Information Filling with Codebook*, **CVPR 2024**
2. Yifan Lu, **Yue Hu**, Yiqi Zhong, Dequan Wang, Siheng Chen, Yanfeng Wang, *An Extensible Framework for Open Heterogeneous Collaborative Perception*, **ICLR 2024**
3. **Yue Hu**, Yifan Lu, Runsheng Xu, Weidi Xie, Siheng Chen, Yanfeng Wang, *Collaboration Helps Camera Overtake LiDAR in 3D Detection*, **CVPR 2023**
4. **Yue Hu**, Shaoheng Fang, Weidi Xie, Siheng Chen, *Aerial monocular 3d object detection*, **RAL 2023**
5. Chi Xie, Fangao Zeng, **Yue Hu**, Shuang Liang, Yichen Wei, *Category Query Learning for Human-Object Interaction Classification*, **CVPR 2023**
6. Sizhe Wei, Yuxi Wei, **Yue Hu**, Yifan Lu, Yiqi Zhong, Siheng Chen, Ya Zhang, *Asynchrony-Robust Collaborative Perception via Bird's Eye View Flow*, **NeurIPS 2023**
7. **Yue Hu**, Shaoheng Fang, Zixing Lei, Yiqi Zhong, Siheng Chen, *Where2comm: Efficient Collaborative Perception via Spatial Confidence Maps*, **NeurIPS 2022, Spotlight**
8. Zixing Lei, Shunli Ren, **Yue Hu**, Wenjun Zhang, Siheng Chen, *Latency-Aware Collaborative Perception*, **ECCV 2022**
9. Yangheng Zhao, Jun Wang, Xiaolong Li, **Yue Hu**, Ce Zhang, Yanfeng Wang, Siheng Chen, *Number-Adaptive Prototype Learning for 3D Point Cloud Semantic Segmentation*, **ECCV 2022 Workshop, Spotlight**

10. Cheng Zou, Bohan Wang, **Yue Hu**, Junqi Liu, Qian Wu, Yu Zhao, Boxun Li, Chenguang Zhang, Chi Zhang, Yichen Wei, Jian Sun, *End-to-end human object interaction detection with hoi transformer*, **CVPR 2021**

11. **Yue Hu**, Siheng Chen, Ya Zhang, Xiao Gu, *Collaborative motion prediction via neural motion message passing*, **CVPR 2020, Oral**

12. **Yue Hu**, Siheng Chen, Xu Chen, Ya Zhang, Xiao Gu, *Neural message passing for visual relationship detection*, **ICML 2019 Workshop, Spotlight**

Preprint

1. **Yue Hu**, Xianghe Pang, Xiaoqi Qin, Yonina C. Eldar, Siheng Chen, Ping Zhang, Wenjun Zhang, *Pragmatic Communication in Multi-Agent Collaborative Perception*, TPAMI Submitted

2. **Yue Hu**, Juntong Peng, Yunqiao Yang, Siheng Chen, *Communication-Efficient Multi-Agent 3D Detection via Hybrid Collaboration*, ECCV 2024 Submitted

3. Genjia Liu, **Yue Hu**, Chenxin Xu, Weibo Mao, Junhao Ge, Zhengxiang Huang, Yifan Lu, Yinda Xu, Junkai Xia, Yafei Wang, Siheng Chen, *Towards Collaborative Autonomous Driving: Simulation Platform and End-to-End System*, TPAMI Submitted

Honors & Awards

National Scholarship	*2023*
First Prize in National Post-Graduate Mathematical Contest in Modeling (10/12211)	*2019*
Shanghai Outstanding Graduates (Top 5%)	*2017*
National Inspirational Scholarship	*2015,2017*
School-Level Scholarship in Shanghai Jiao Tong University	*2013-2019*

Invited Talks

- Rising Stars in KAUST AI Symposium   *Feb. 20, 2024*
- Fifth Distributed AI conference (DAI)   *Dec. 3, 2023*

Academic Service

- Workshop Organizer
  CoPerception: Collaborative Perception and Learning, ICRA 2023 workshop
- Reviewer
  CVPR, RAL, AAAI, IROS

Reference Contacts

- Siheng Chen, Associate Professor, Shanghai Jiao Tong University, sihengc@sjtu.edu.cn
- Weidi Xie, Associate Professor, Shanghai Jiao Tong University, weidi@sjtu.edu.cn
- Ya Zhang, Professor, Shanghai Jiao Tong University, ya_zhang@sjtu.edu.cn

Media Coverage

- 机器之心，"CVPR 2023 | 多车协作让纯视觉 3D 目标探测媲美激光雷达"，4.6k Read, Apr.25 2023
- 机器之心，"将通信带宽降低至十万分之一，NeurIPS 2022 论文提出新一代协作感知方法"，8.5k Read, Oct.11 2022
- 将门创投，"新一代协作感知 Where2comm 减少通信带宽十万倍"，2.8k Read, Nov.3 2022