

YANG ZHOU

EDUCATION

New York University, Ph.D. in Electrical Engineering Aug. 2019 – Present
ShanghaiTech University, B.E. in Computer Science and Technology Sep. 2015 – Jul. 2019

PUBLICATION

Yang Zhou, Jiahong Xiao, Yue Zhou, Giuseppe Loianno, “**Multi-robot Collaborative Perception with Graph Neural Networks**”, IEEE Robotics and Automation Letters, vol. 7, no. 2, pp. 2289–2296, 2022
 Rundong Ge*, Moonyoung Lee*, Vivek Radhakrishnan, Yang Zhou, Guanrui Li, Giuseppe Loianno, “**Vision-based Multi-Object Detection and Tracking for Micro Aerial Vehicles**”, 2022 IEEE/RSJ International Conference on Intelligent Robots and Systems
 Yang Zhou, Rundong Ge, Gary Mcgrath, Giuseppe Loianno, “**FENet: Fast Real-time Semantic Edge Detection Network**”, IEEE International Symposium on Safety, Security, and Rescue Robotics, 2020, pp. 246–251
 Yang Zhou, “**Extrinsic Calibration Algorithm between a Stereo Visual System and a 3D LiDAR**”, Carnegie Mellon University Robotics Institute Summer Scholars Working Papers Journal, 2018

RESEARCH EXPERIENCE

Research Interest: **SLAM, Multi-robot Perception, Scene Understanding**, Robotics, Computer Vision
Agile Robotics and Perception Lab, New York University Brooklyn, USA
Research Assistant, supervised by Prof. *Giuseppe Loianno* Aug. 2019 – Present

- Proposed novel real-time semantic edge detection network.
- Proposed multi-robot collaborative perception framework with graph neural networks.
- Proposed multi-robot relative localization with learning-based detection and filter-based tracking.
- Developed human-swarm interaction system by Hololens2.

Robot Perception Lab, Carnegie Mellon University Pittsburgh, USA
Undergraduate Research Intern, supervised by Prof. *Michael Kaess* Jun. 2018 – Dec. 2018

- Proposed novel extrinsic calibration algorithm between stereo camera and 3D LiDAR.
- Developed novel algorithm for 3D LiDAR intrinsic calibration.

Mobile Perception Lab, ShanghaiTech University Shanghai, China
Bachelor Thesis, advised by Prof. *Laurent Kneip* and Prof. *Michael Kaess* Oct. 2018 – June. 2019

- Proposed novel pipeline of Stereo Event-based Visual Inertial Odometry.

Living Machine Laboratory, ShanghaiTech University Shanghai, China
Undergraduate Research Assistant, supervised by Prof. *Andre Rosendo* Mar. 2018 – May. 2018

- Proposed novel framework to detect manipulator malfunction using a monocular camera.

The Perception, Learning and UnderSTanding Group, ShanghaiTech University Shanghai, China
Undergraduate Research Assistant, supervised by Prof. *Xuming He* Feb. 2017 – Mar. 2018

- Proposed learning-based object pose estimation method.

WORKING EXPERIENCE

Microsoft Research, Microsoft Redmond, USA
Research Intern Jun. 2022 – Aug. 2022

- Developed perception-aware planning system.

Tencent United Security Laboratory, Tencent Inc. Shanghai, China
Security Researcher Aug. 2017 – Dec. 2017

- Analyzed perception system of autonomous driving vehicle in security research.
- Proposed adversarial attack method to evaluate the robustness of the visual perception system.

PROJECT & LEADERSHIP EXPERIENCE

ShanghaiTech RoboMaster Team Shanghai, China
Captain, Founder Oct. 2017 – May. 2018

- Led a team of 35 to build 6 robots with perception, planning, and decision-making systems

ShanghaiTech Undergraduate RoboCup Rescue Team Shanghai, China
Leader of Computer Vision group, Co-founder Feb. 2017 – Apr. 2018

- Developed LiDAR and RGB-D based SLAM system and motion detection system.

SKILLS

Programming Languages: C/C++, Python, Matlab **Tools:** ROS, Pytorch, Tensorflow, OpenCV, SolidWorks
Hardware: ZED, Kinect, Realsense, Velodyne, Kinovad JACO 2, Qualcomm Flight pro, Hololens2