Yang ZHOU

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EDUCATION

ShanghaiTech University   Shanghai, China
B.E. in Computer Science and Technology   Sep. 2015 – Jul. 2019 (Expected)

- GPA: **3.71/4.0 Rank: 7%**
- Core course:
  - ➢ Computer Vision
  - ➢ Robotics   (graduate)
  - ➢ Simultaneous Localization and   (graduate)
    Mapping
  - ➢ Deep Learning   (graduate)
  - ➢ Machine Learning   (graduate)
  - ➢ Mechatronics   (graduate)

The University of Chicago   Chicago, USA
Summer Session   Aug. 2016

- Course: Statistical Models and Methods

PUBLICATION

Y. Zhou, "Extrinsic Calibration Algorithm between a Stereo Visual System and a 3D LiDAR," Carnegie Mellon University Robotics Institute Summer Scholars Working Papers Journal, 2018, pp.157-165

RESEARCH EXPERIENCE

Research Interest: **SLAM**, **Robotics**, **Computer Vision**, **Deep Learning**

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

- Proposed a novel extrinsic calibration algorithm between a stereo visual system and a 3D LiDAR.
- Developed an efficient extrinsic calibration toolbox in C++.
- Presented a poster at Robotics Institute Summer Scholars research showcase.
- Participated in the research of 3D LiDAR intrinsic calibration. (in progress)

Mobile Perception Lab, ShanghaiTech University   Shanghai, China
Bachelor Thesis, advised by Prof. *Laurent Kneip*, co-advised by Prof. *Michael Kaess* Oct. 2018 – Present

- Proposed a novel pipeline of Stereo Event-based Visual Inertial Odometry. (in progress)

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

- Proposed a novel framework to detect the malfunction of manipulator using a monocular camera.
- Implemented tools to control JACO 2 Robotic Arm in ROS with inverse kinematics.

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

- Participated in the research of semantic segmentation.
- Proposed and realized a 6-DoF object pose estimation algorithm using deep learning in PyTroch.

Mobile Autonomous Robotic Systems Lab, ShanghaiTech University   Shanghai, China
Summer Research Intern, supervised by Prof. *Sören Schwertfeger*   Jun. 2016 – Aug. 2016

- Developed a flight control module using the localization from the optitrack to hover the drone.

PROJECT & LEADERSHIP EXPERIENCE

ShanghaiTech RoboMaster Team   Shanghai, China
Captain, Founder   Oct. 2017 – May. 2018
- Led cross-functional project team of 35 to build 6 robots with different functions for RoboMaster.
- Designed the framework of perception system, planning system, and decision-making system.
- Developed a perception system for object detection and pose estimation using deep learning.

ShanghaiTech Undergraduate RoboCup Rescue Team   Shanghai, China
Leader of Computer Vision group, Co-founder   Feb. 2017 – Apr. 2018
- Developed a SLAM system using a 2D LiDAR and an RGB-D sensor.
- Developed a QR code and motion detection system.

WORKING EXPERIENCE

Tencent United Security Laboratory, Tencent Inc.   Shanghai, China
Security Researcher   Aug. 2017 – Dec. 2017
- Participated in security research on perception system of the autonomous driving car.
- Proposed adversarial attack method to evaluate the robustness of the visual perception system.

TEACHING EXPERIENCE

CS110 Computer Architecture, ShanghaiTech University   Shanghai, China
Teaching Assistant   Mar. 2018 – Jun. 2018
- Taught C++/MIPS/Parallel Computing/OS to 110 sophomores in Office Hour and Discussion.
- Designed two assignments and provided problems for three exams.

SI100 Introduction to Information Science and Technology, ShanghaiTech University   Shanghai, China
Teaching Assistant   Mar. 2017 – Jun. 2017
- Taught Electronics/Python/Control/ROS to 380 freshmen in Office Hour and Discussion.

CS100 Programming, ShanghaiTech University   Shanghai, China
Teaching Assistant   Sep. 2016 – Feb. 2017
- Taught Rust/Python to 120 freshmen in Office Hour and Discussion.

HONOR & AWARDS

- Third Prize, RoboMaster 2018 Robotics Competition, Regional   May. 2018
- Champion, Manipulator Challenge at RoboCup Rescue 2018 Competition, China   Apr. 2018
- Third Prize, RoboCup Rescue 2018 Competition, China   Apr. 2018
- Academic Excellence Scholarship, ShanghaiTech, Twice (Top 15%)   Dec. 2017 & Dec. 2016
- Outstanding Student, ShanghaiTech, Triple (**Top 5%**)   Nov. 2018 & Dec. 2017 & Dec. 2016
- Honorable Mention of 2017 Mathematical Contest in Modeling   Apr. 2017

VOLUNTEER EXPERIENCE

- Served as a student volunteer for RSS (2018)   Aug. 2018
- Served as a student volunteer for SSIST (2017)   Jun. 2017

SKILLS

Programming languages: C/C++, Python, Matlab, Rust
Tools: ROS, Pytorch, Tensorflow, OpenCV, Eigen, PCL, SolidWorks, GDB, CMake, LaTex, Git

Hardware: ZED, Xtion pro live, Kinect, Velodyne HDL-64E/VLP-16, Kinova JACO 2