

# Yang ZHOU

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## EDUCATION

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**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 (graduate) ➤ Deep Learning (graduate)  
➤ Robotics (graduate) ➤ Machine Learning (graduate)  
➤ Simultaneous Localization and Mapping (graduate) ➤ Mechatronics (graduate)  
**The University of Chicago** Chicago, USA  
Summer Session Aug. 2016  
• Course: Statistical Models and Methods

## PUBLICATION

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Yang Zhou, “Extrinsic Calibration Algorithm between a Stereo Visual System and a 3D LiDAR,” The Carnegie Mellon University Robotics Institute Summer Scholars Working Papers Journal, 2018

## RESEARCH EXPERIENCE

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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 PyTorch.

**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 Python/ROS to 380 freshmen in Office Hour and Discussion.

### CS100 Programming, ShanghaiTech University

Shanghai, China

*Teaching Assistant*

Sep. 2016 – Feb. 2017

- Taught Rust 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, Twice (**Top 5%**) 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