# YuanPei Chen

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**WEBSITE**

**Github** https://github.com/cypypccpy

**INTERESTIS**

Computer vision, Simultaneous Localization and Mapping (SLAM), Service robots, Point-cloud, Deep Learning, 3D perception, 6 DoF Pose Estimate, Manipulation

**EDUCATION**

South China University of Technology, Guangzhou, Guangdong
Bachelor of Engineering, Intelligent Construction, May 2019
G.P.A. 3.4/4.0

**PROJECTS**

**MoveIt! based Manipulator and 6 DoF Pose Estimation Algorithm**

For 6 DoF motion planning of manipulator, I used Moveit! framework to integrate the trajectory planning, collision detection, kinematics, 3D perception modules in a system. For 6 DoF Pose Estimation, I used Yolov3 algorithm to get the ROI then developed OpenCV RGBD module to calculate the target pose. My pipeline have a high frame rate for stable object pose estimation.

**Improved Localization system of Automated Guided Vehicle**

This project is an upgrade of the AGV localization system for the ICRA 2021 DJI RoboMaster AI Challenge. After realizing a Lidar based navigation using ROS Navigation Stack, I found that AMCL algorithm for localization have a low accuracy. Therefore, I separated the pure localization module of a SLAM algorithm, Cartographer, used it for localization and published odom and pose topic for navigation in ROS, greatly improving the accuracy.

**EXPERIENCE**

**Team Member** Robotics Laboratory, SCUT Guangzhou, GuangDong Summer 2020-Present

As a member of the vision group, responsible for the development of robotics vision. I have applied SLAM, 3D perception, decision and motion planning in a robotic arm and a Automated Guided Vehicle during this period.

**Team Member** State Key Laboratory of Subtropical Building Science Guangzhou, GuangDong Summer 2019-Present

Participated in Prof.Mu's scientific research team, responsible for the research of deep learning, computer vision, machine vision and Lidar in video surveillance area. Two articles I participated in are under review.

**AWARDS**

Honor Prize in the American College Students Mathematical Contest in Modeling, Feb 2021
Third Prize in the ICRA 2021 DJI RoboMaster University AI Challenge, Xi'An, June 2021
Second Prize in the Final of Huawei Embedded Software Competition,Dong Guang, July 2021
First Prize in the DJI RoboMaster University Championship, Shen Zhen, July 2021

## PROFESSIONAL SKILLS

**Programming**
C++, Python, MatLab

**Frameworks**
PyTorch, ROS