

# Guangyao Zhai

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## Education

- **Zhejiang University** *Hangzhou · China* Sep. 2018 – Mar. 2021  
Master's Degree in Control Science and Engineering  
– Affiliated with State Key Laboratory of Industrial Control Technology
- **Northwestern Polytechnical University** *Xi'an · China* Sep. 2014 – Jun. 2018  
Bachelor's Degree in Automation, **Academic Record Percentage: 87/100, GPA: 3.57/4.00**

## Skills

- **Programming:** Python, C++, MATLAB, L<sup>A</sup>T<sub>E</sub>X
- **Framwork:** Robot Operating System (ROS), PyTorch

## Publication

- **Journal**
  - **Guangyao Zhai**, Liang Liu, Linjian Zhang and Yong Liu. *PoseConvGRU: A Monocular Approach for Visual Ego-motion Estimation by Learning*. **Pattern Recognition (2020)** [\[link\]](#)
- **Conference**
  - Xin Kong, Xueming Yang, **Guangyao Zhai** and Yong Liu et.al. *Semantic Graph Based Place Recognition for 3D Point Clouds*. **IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2020)** [\[link\]](#)
  - Xin Kong, **Guangyao Zhai**, Baoquan Zhong and Yong Liu. *PASS3D: Precise and Accelerated Semantic Segmentation for 3D Point Cloud*. **IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2019)** [\[link\]](#)
  - Liang Liu, **Guangyao Zhai**, Wenlong Ye and Yong Liu. *Unsupervised Learning of Scene Flow Estimation Fusing with Local Rigidity*. **the Twenty-Eighth International Joint Conference on Artificial Intelligence (IJCAI 2019)** [\[link\]](#)
- **Manuscript**
  - **Guangyao Zhai**, Yong Liu et.al., *FlowMOT: 3D Multi-Object Tracking by Scene Flow Association*.  
Submitted to ICRA 2021

## Project

- **Research on the Perception and Decision of Legged Robots** May. 2019 – May. 2020  
Collaborated with: **DeepRobotics Co. Ltd.**
  - **Introduction:** I am cooperating with DeepRobotics to research the perception ability of legged robots. The main task is to achieve 3D real-time obstacle avoidance tracking for an interested moving target (SOT). The overall project is based on the ROS framework and is divided into four modules: Global Map Relocalization, Walkable Area Detection, 3D Single Object Tracking, Path Planning and Navigation.
  - **Responsibilities:** I am the **project leader**, researching and making the module of Walkable Area Detection and Object Tracking in the project. I am also responsible for writing project materials, coordinating the progress of other project fellow and connecting with other relevant fellow.

## Internship Experience

- **Huawei Technologies Co. Ltd.** *Shanghai · China* Apr. 2020 – Aug. 2020  
Research Intern / **Noah's Ark Laboratory, 2012 Laboratories**
  - Have designed a 3D Multi-Object Tracking framework based on LiDAR point cloud.

## Awards and Honors

- **Awards**

- **National Scholarship for Postgraduates** *Ministry of Education of the P. R. China* 2019 – 2020  
(*The highest prize for postgraduates in China's Mainland*)
- **Academic Scholarship** *Zhejiang University* 2018 – 2019
- **Second Prize Scholarship × 3** *Northwestern Polytechnical University* 2014 – 2017

- **Honors**

- **“Triple-A” Master Student** *Zhejiang University* 2019 – 2020  
(*Top 15% master students*)
- **Outstanding Master Student** *Zhejiang University* 2019 – 2020  
(*Top 35% master students*)

## Additional Information

- **Review Experience**

- International Conference on Robotics and Automation (ICRA)
- International Conference on Intelligent Robots and Systems (IROS)
- International Conference on Climbing and Walking Robots and the Support Technologies for Mobile Machines (CLAWAR)

- **Language Skills**

- Mandarin *native*
- English *IELTS 6.5 (Listening: 6.5 Reading: 7 Speaking: 6.5 Writing: 6.5)*

- **Interests**

- Passionate about swimming (practicing for five years), fitness and cooking.

- **Values and Methodology**

- *Quality · Diligence · Self-reflection*