

Zuxin Liu

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Education

Carnegie Mellon University

2019.8 -

Ph.D. in Mechanical Engineering

Pittsburgh, PA

- Advised by Prof. [Ding Zhao](#)

Beihang University

2015.9 - 2019.6

B.Eng. in Technology and Apparatus of Measuring and Control

Beijing, China

- GPA: 3.94/4.00, 1/167 (Cumulative Rank)
- National Scholarship (top1%), 2016&2017&2018
- Shenyuan Golden Medal Award (10/4000), 2018
- China Instrument Society First Class Scholarship (top0.2%), 2018
- Dean's Award (top1%), 2017
- First Class of Scholarship(top1%), 2016&2017

Darmstadt University of Technology

2018.9 - 2019.3

Exchange Student at the Computer Science Department

Darmstadt, Germany

- Fully funded by the China Scholarship Council
- Courses: Computer Vision; Robot Learning (lecture, seminar, and project Lab)

Publications

Where Should We Place LiDARs on the Autonomous Vehicle? - An Optimal Design Approach

Zuxin Liu, Mansur Arief, and Ding Zhao.

2019 IEEE International Conference on Robotics and Automation (ICRA).

[\[LINK\]](#) [\[CODE\]](#)

DS-SLAM: A Semantic Visual SLAM towards Dynamic Environments

Chao Yu, Zuxin Liu, Fei Qiao et al.

🏆 Ranked as the most popular presentation by INFOVAYA.

2018 IEEE International Conference on Intelligent Robots and Systems (IROS).

[\[LINK\]](#) [\[CODE\]](#)

Undergraduate Experience

Darmstadt University of Technology

2018.10 - 2019.3

Advisor: Prof. Jan Peters & Dr. Riad Akrouf

- **Project:** Implement the DQN and MPC algorithms from scratch and thoroughly evaluate them on the Cart-pole, Double-cart-pole and Furuta Pendulum robot platforms. [[CODE](#)]

Tsinghua University

2017.9 - 2018.7

Research Assistant, advisor: Prof. Fei Qiao

- **Project:** DS-SLAM: A Semantic Visual SLAM towards Dynamic Environments. Use semantic segmentation network to improve the Simultaneous Localization And Mapping (SLAM) robustness in dynamic environments. [[PAPER](#)][[CODE](#)]

Beihang University

2016.9 - 2018.10

Advisor: Prof. Zhenzhong Wei

- **Project 1:** Robot's Eyes and Brain: Visual Semantic SLAM System [[VIDEO](#)]
 - Won the award from National Undergraduate Training Program for Innovation and Entrepreneurship
 - Led a team to enable the robot finish high-level tasks autonomously (eg. The robot could understand user's voice instructions and help user to find objects)
 - Won the First Prize in the 2018 International Conference on Optics and Photonics(ICOPEN) 3-D Sensor Application Design Competition (1 out of 20 teams around the world)
 - Won the First Prize in the 28th Feng Ru Cup Competition of Academic and Technological Works (top1%)
- **Project 2:** VR Multicopter System [[VIDEO](#)]
 - Invented a muticopter system which could let user control the drone in the first person perspective
 - Won the First Prize in the 2017 International Design and Innovation Competition (1 out of 14 teams around the world)
- **Project 3:** Visual SLAM-based Autonomous Robot [[VIDEO](#)]
 - Led a team to build a mobile robot platform which could achieve autonomous navigation and obstacle avoidance based on RTAB-Map and ROS
 - Won the Second Prize in the 27th Feng Ru Cup Competition of Academic and Technological Works (top15%)
- **Project 4:** Arduino-based Interactive Facial Expression Robot
 - Independently developed a servo control-based robot which could make different expressions according to user's voice command
 - Won the Third Prize in the 26th Feng Ru Cup Competition of Academic and Technological Works (top30%)

Da-Jiang Innovations (DJI)

2017.9 - 2018.7

Algorithm Engineer Intern

- Co-designed an automatic AI robot system which is developed for [ICRA DJI RoboMaster AI challenge](#)
- Developed the localization module based on the LiDAR SLAM
- Developed the enemy detection module based on computer vision

Teaching & Leadership

Head of Science Technology Department, Students' Union of Beihang University *Beijing, 2016 - 2018*

- In charge of the organization and training of scientific and technological events.

Freshmen's Mentor, School of Instrumentation Science & Opto-electronics Engineering, Beihang University *Beijing, 2016 - 2018*

- Gave a series of lectures to teach students how to build a robot.
- Held a relevant smart robot competition for students.

Honors & Awards

National Undergraduate Training Program for Innovation

Beihang University, 2018

Beijing Outstanding Student

Ministry of Education of Beijing, 2018

Honorable Mention

The Interdisciplinary Contest in Modeling, 2018

University-level Outstanding Student

Beihang University, 2016 & 2017

University-level Excellent Member

Beihang University, 2016 & 2017 & 2018

The 2nd Prize in Beijing Physics Competition

Beijing Society of Physics, 2016

Service

Reviewer for ICRA 2020

2019

Reviewer for IROS 2020

2020