Ranxi LIU

Robotics Researcher

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CV

Bachelor Education

2015-2020 Harbin Institute of Technology, WEIHAI **Weihai, Shandong Province**

Institute of Information Science and Engineering

Courses: Measurement and Control Technology and Instruments

- Develop my own philosophy about the professionality as well as value criteria of electronic technology.

Extracurricular Activities

2015-2021 Prepare for the Nationwide Master's Program Unified Admissions Examination in China

Towards *Electronic Engineering*

- Improve the academic English including both academic reading and writing.

Master Education

2022-2023 University of Technology Sydney **Ultimo, Sydney, New South Wales**

Faculty of Engineering and Information Technology

Course: Master of Engineering - Telecommunications and Electronics

- Achieve the growth as a qualified robotics engineer and think about the ways that I can make contribution to the industry and society in the future.
- Develop my own philosophy about the professionality as well as value criteria of robotics technology.

Employment Experience

January to April, 2022 **Chendu, Sichuan Province**

Sichuan Shengtuo Testing Technology Co., Ltd

- Serve as a development assistant in the hardware development department.

March to December, 2024 University of Technology Sydney **Ultimo, Sydney, New South Wales**

Robotic Institute, Faculty of Engineering and Information Technology

- Work as a visiting scholar in the Engineering Projects Lab of UTS Robotic Institute.

Research Experience

2022-2023 University of Technology Sydney **Ultimo, Sydney, New South Wales**

Robotic Institute, Faculty of Engineering and Information Technology

- Be invited to the Engineering Projects Lab of UTS Robotic Institute in November 2022 and conduct my capstone research.
- Conduct research related to robot-assisted surgery 'Simultaneous Localization of Bronchoscopic Probe and Mapping of Deformable Endobronchial Environment'.

March to December, 2024 University of Technology Sydney **Ultimo, Sydney, New South Wales**

Robotic Institute, Faculty of Engineering and Information Technology

- Help PhD researchers with 3D modeling using Solidworks, UR10 control in ROS, data collection and processing with designed optimization algorithms in terms of the hip-replacement surgery.
- Collaborate with PhD students on the development of a Multi-robot Extended Kalman Filter (EKF) SLAM algorithm.
- Study with PhD researchers regarding the multi-segment continuum robots, from establishing system models to validating the optimal kinematic configuration.

Skills (out of 10 points)

Matlab(8) Python(6) ROS (5) Visual Components(5) C++(4)

Language (out of 10 points)

Chinese(9) English(7)

Scientific publications

- '**First Estimate Jacobian EKF for Multi-robot SLAM**' on 2024 Australasian Conference on Robotics and Automation (ACRA 2024).