



# XINZHUO LI

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## EDUCATION

**Lancaster University and Beijing Jiaotong University**  
(China-UK dual degree programme)

Sep. 2018 – Sep. 2023

**Major in Computer Science**

- CGPA of LU: 3.96/4.0, Ranking 3/128
- GPA of BJTU: 85.8/100, Ranking 23/128

## WORK EXPERIENCE

**CUHK(shenzhen) Robotics & AI Lab**

Apr. 2021 – Feb. 2022

**Research intern during one-year gap from University**

Shenzhen, China

- Research on various robots in the lab such as four-legged robot and quad-copter.
- Cooperate with Huawei Corp to develop an AGV which is capable of mapping and navigation.

## RESEARCH PROJECT

**Airsbot - mobile robot using SLAM with indoor and outdoor versions**

Sep. 2021

CUHK(shenzhen) Robotics & AI Lab (Supervised by Hung-Chyun Chou)

*Host computer: read data from stereo camera and LiDAR, based on ROS to implement mapping and navigation and communicate with remote application using ModbusTCP. Slave computer: control motors and other devices, read sensors' data to calculate odometry and communicate with host computer using RS232.*

**A Sequence-Based VPR Technique with Segmented Database and Compact Sequence List**

Jan. 2022

CUHK(shenzhen) Robotics & AI Lab (Supervised by Hung-Chyun Chou)

*VPR can be considered as an image retrieval problem which can help the loop closure step in SLAM. In this paper, I use CoHog as descriptors for images to calculate similarity to segment database and generate shorter query list to reduce searching time.*

**Design of Modular Self-reconfigurable Robots with a novel actuating mechanism**

Dec. 2019

Beijing Jiaotong University (Supervised by Hang Zhou)

*Design and implement a modular self-reconfigurable robot with novel actuating and docking system.*

**Utilizing PID algorithm to control a four-legged robot maintain balance on unstable platform**

May. 2021

CUHK(shenzhen) Robotics & AI Lab (Supervised by Puyang Zhang)

*Implement self-balancing code on Arduino for a four-legged robot on unstable platform using PID.*

**Using UDP protocol to control swarm of quad-copters**

Aug. 2021

CUHK(shenzhen) Robotics & AI Lab (Supervised by Puyang Zhang)

*Send separate command on a simple GUI to group of quad-copters simultaneously with the help of socket communication.*

## HONOR AND AWARD

**College Students Innovation and Entrepreneurship Competition, Province level project**

Sep. 2020

Leader of the team. Awarded for the Self-reconfigurable Robot project.

**Academic Dean's List of Lancaster University**

Sep. 2022

For students with outstanding academic achievement.

## SKILLS

**Languages:** English (TOEFL 94, IELTS 7.0, GRE 323+3), Chinese (Native), Japanese (JLPT N2)

**Programming:** Python (NumPy, Matplotlib, Pandas, tensorflow, pytorch), C & C++, Java, C#

**Robotics:** Linux, ROS, MCU (STM32, Arduino), 3D modeling (solidworks)

**Other:** Git, Latex, Markdown, Unity