XINZHUO LI

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EDUCATION

Lancaster University and Beijing Jiaotong University   Sep. 2018 – Sep. 2023
(China-UK dual degree programme)

Major in Computer Science

- GPA 3.53/4.0 (85.8/100.0)

WORK EXPERIENCE

CUHK(shenzhen) Robotics & AI Lab   Apr. 2021 – Feb. 2022
Research intern during one-year gap from University   Shenzhen, China

- Mastering operations on Linux and ROS, better understanding of firmware (STM32).
- Manipulation of various robots in the lab such as four-legged robot and quad-copter.
- Implementing SLAM system on mobile robot with stereo camera and LiDAR.
- Cooperate with Huawei Corp to develop an AGV.

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 Shusheng Ye)

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, Pronvince level project   Sep. 2020
Leader of the team. Awarded for the Self-reconfigurable Robot project.

SKILLS

Languages: English (TOEFL 94, IELTS 7.0), Chinese (Native), Japanese (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