PERSONAL INFO

QIZHI GUO

DOB: 09/04/1999
SEX: MALE
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EDUCATION BACKGROUND

CHINA AGRICULTURAL UNIVERSITY

09/2017-06/2021

- Major: Mechanical and Electronic Engineering
- College: College of Engineering
- GPA: 79% (IELTS: 6.5)

THE UNIVERSITY OF HONG KONG

09/2021-08/2022

- Major: Mechanical Engineering
- College: College of Engineering
- Laboratory: HKU MaRS Lab
- GPA: In progress

PROFESSIONAL SKILLS

Software:
- C / C++ / Python / MATLAB (Simulink)
- Linux Operation System
- CMake / Git / Robotic Operation System (ROS)
- SolidWorks / AutoCAD / Edgecam

Hardware:
- Embedded Systems Development (STM32F103, STC89C51)
- Mechanical structural design

ACADEMIC EXPERIENCES

A FAST, ROBUST LIDAR-INERTIAL-VISUAL FUSION SLAM FRAMEWORK   09/2021-02/2022
- One of the contributors to the paper
- Design handheld platform to collect synchronized dataset (including LiDAR point cloud, image and IMU)
- Generate RGB-colored, dense and accurate point cloud
- Efficiency analysis of the modules of each subsystem

THE INTEGRATION BETWEEN FAST-LIO AND VISION BASED ON UAV DJI M300   09/2021-12/2021
- Time synchronization between Livox LiDAR Avia and industrial camera by PPS signals from OSDK port
- Intrinsic calibration of the camera, extrinsic calibration between LiDAR and camera
- Use SolidWorks to draw a connector to carry devices on the drone
- Handle DJI Onboard SDK based on ROS

TURTLEBOT WITH AUTOMATIC MAPPING, LOCALIZATION AND OBSTACLE AVOIDANCE BASED ON ROS
09/2021-12/2021
- Build 2D grid map using encoder and RPLiDAR-A2
- Develop localization method GMapping for the mobile robot
- Use DWA and self-designed algorithm for planner to reach the destination without colliding with obstacles
- Build the digital twin of the environment using a mobile robot, and display the camera view in real-time

VISION-BASED NAVIGATION CONTROL SYSTEM DESIGN FOR AUTONOMOUS TROLLEYS IN GREENHOUSES
11/2020-06/2021
- Control system hardware design
- Path recognition algorithm: morphological processing and finding the centerline of a profile
- Software system design for the control of the trolley by means of differential speed

MCM/ICM CONTEST   02/2020

Topic: Construction of environmental safety assessment system based on discrete regression model under the background of plastic pollution
- Serve as the team leader in charge of the control of the progress
- Establish the safety assessment system of plastic pollution based on discrete regression model
- Utilize the gray model to predict the future development trend of disposable plastic products
- Write paper and thesis drawings

AWARDS

- 2017-2018 CAU Scholarship
- 2020-2021 CAU Scholarship