Zihan Yue Yue

Personal details

Zihan Yue Yue

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2 December 2002

Male

China

Skills

- Python
- C/C++
- Matlab
- Control Systems
- Machine Learning
- Unity
- UE5

Languages

- English
- Chinese

Education

Bachalor of Electrical and Electronics Engineering — **Sep 2021 - Jul 2024**

The University of Manchester, Manchester

- Acquired in-depth knowledge of circuit design and analysis, enhancing skills in developing electronic systems and troubleshooting circuit-related issues.
- Studied principles of control systems, focusing on feedback mechanisms and stability analysis, applicable to robotics control.
- Learned signal processing techniques, enabling the application of sensors to gather and interpret data for robotic applications.
- Gained experience in programming and interfacing microcontrollers, facilitating the design of autonomous robotic systems.

Master of Robotics — **Sep 2024 - Sep 2025**

The University of Manchester, Manchetser

- Developed advanced algorithms for robot motion planning and trajectory optimization, ensuring efficient navigation and obstacle avoidance in dynamic environments.
- Conducted research on machine learning applications in robotics, enhancing robotic perception and decision-making capabilities.
- Mastered control theory specifically tailored for robotic systems, including PID control, adaptive control, and optimal control strategies.
- Implemented vision-based control methods utilizing computer vision technologies for enhanced robotic interaction with dynamic surroundings.
- Engaged in hands-on projects involving robotic platforms, integrating sensors and actuators to realize complex control systems.

Internships

Chip Engineer — **Jun 2020 - Sep 2020**

Accelink Technologies Co., Ltd., Wuhan

Interned at Accelink Technologies Co., Ltd. in Wuhan from July to September 2020 as an optical communication chip testing technician. The role involved gaining experience in the design and manufacturing processes of indium phosphide-based optical communication chips

Image Recognition Engineer — **Jun 2022 - Sep 2022**

Raytron Technology, Wuhan

- Conducted experiments using machine learning models to enhance image classification accuracy for autonomous navigation.

Achievements

Dynamic Gesture Recognition--An independent development of a dynamic gesture recognition system for an embedded system was achieved. The system utilizes the Mediapipe hand keypoints model to extract keypoints from a live video stream. Angle features between keypoint vectors are calculated and stacked to form a time series of gesture features. Fast Dynamic Time Warping (FastDTW) is then applied to measure the similarity between the live gesture's feature time series and the dataset, enabling accurate gesture recognition.

Hobbies

- Coding and programming
- DIY projects
- Drone piloting

Qualities

- Team Collaboration
- Problem Solving
- Creativity
- Critical Thinking
- Time Management

Quadrotor UAV Controller--An independently developed flight control program for a quadrotor UAV was implemented using Python. The controller adopts a cascaded PID architecture, enabling the UAV to navigate to predefined target points and perform attitude transitions at each location within a simulated environment built with PyBullet. I was solely responsible for the entire development process, including program implementation and PID parameter tuning. This project is currently in its final debugging stage, so the source code is not publicly available at the moment.

Line-Following Buggy--As a programmer in the line-following robot project at the University of Manchester, I was responsible for reading data from light and speed sensors using C language, processing the sensor data, and implementing a PID algorithm to enable the robot to follow a pre-set white line both swiftly and stably. The entire system was developed on an STM32F401RE microcontroller, and our team secured second place in the final competition.