Erzhizhi **HU**

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ACADEMIC BACKGROUND

A Sino-foreign Cooperative Education Program

Heriot-Watt University, UK (HWU) *09/2024-06/2025*

- **Major:** Robotics**; Degree:** Bachelor of Engineering
- **AVG:** Currently unavailable and will be updated in June 2025; **Grade:** First-Class Honours
- **Teaching Language:** English

Ocean University of China, China (OUC) *09/2021-06/2024*

- **Major:** Computer Science and Technology**; Degree:** Bachelor of Engineering
- **AVG:** 86.07/100; **GPA:** 3.518/4.000
- **Teaching Language:** Chinese & English
- **Computer Skills:**
  Python (3 years), Java (3 years), C# (2 year), and C (2 year)
  VSCode (4 years), Eclipse(2 years), and VS (2 year)

PAPER & PUBLICATION

YOLOv10-based Model for Player and Football Detection *26/04/2024-30/07/2024*

First Author; Advisor: Hang LU (an associate researcher at Chinese Academy of Sciences)

- Focused on the advanced YOLOv10 model for my research, reviewed a great deal of literature, and identified my interest in addressing limitations in detecting tiny targets like players and soccer balls
- Optimized the model by upgrading its three-detector-head structure to a four-detector-head structure, and adjusted and optimized the head and backbone layers, enabling better performance in fine-grained target recognition
- Summarized my findings in a thesis which was accepted by Warwick Evans Publishing on 5 August 2024, and will be published in the ***International Journal of Computer Science and Information Technology*** (ISSN: 3005-9682)

SELECTED PROJECT

Coursework**: An Autonomous Table Tennis Ball Collecting Robot** *03/2024-05/2024*

Member; Advisor: Shengke Wang (an associate professor at OUC)

- Took a large number of images of table tennis balls and manually labeled their locations, based on which a YOLOv5 training dataset was assembled
- Developed the control logic for the robot so that it could autonomously navigate and collect table tennis balls, which was followed by rounds of test and optimization to solve the problems of path planning and obstacle avoidance and ensure stability and efficiency in actual operation
- Integrated the YOLOv5 recognition model with the robot control system and conducted several performance tests

Coursework**: Implementation of a Smart Robot Based on Raspberry Pi** *09/2023-01/2024*

Member; Advisor: Leon Bullock (a lecturer at OUC)

- Created a menu-driven interface using Python
- Realized the real-time control of the robot using the infrared remote-control module, and wrote and debugged the relevant code to ensure its stability and response speed
- Grouped all function modules into the main program, and tested and debugged it to enable the cart to perform tasks like patrol, remote control, obstacle avoidance

OUC Student Research Developing Program**: A Programme Specially Designed to Collect Target Information** *01/2023-10/2023*

Member; Advisor: Wenhua XU (a lecturer at OUC)

- Built a web crawler in Python to crawl competition websites and used Regex and XPath to parse the notification information on varied competitions
- Set proxy IPs and simulated manual operations to bypass anti-crawler techniques, such as IP blocking and CAPTCHA
- Rated **Good** at the intramural level