

# Ruming Zheng

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## Education

### The University of Manchester (Master's Degree)

09.2024 – 09.2025

**Major:** Robotics (Expected **Merit** Degree)

- **Main Courses:** Robot Software, Robot Learning, Intelligent Robotics & Robot Vision, Mechatronics, Robotic Systems, Autonomous Mobile Robots

### University of Huddersfield + Fujian Normal University (2+2) (Bachelor's)

09.2020 – 07.2024

**Major:** Electronic and Computer Systems Engineering + Communication Engineering

- **Overall Grade: First Class, GPA: 87.6 (Rank 1<sup>st</sup> in Major)**
- **Main Courses:** Microcontrollers, Linear Algebra, C Programming, C++, Embedded Systems
- **Awards:** The IET Prize for the Best Student on the M/Beng Hons Electronic Engineering Programme

## Project Experience

### NVIDIA Omniverse Virtual Simulation Navigation Project

06.2025 – 09.2025

- Used BLK ARC LiDAR and image fusion to scan the teaching building, generating RGB point clouds and reconstructing the model.
- Processed point clouds and models via CloudCompare and Meshlab, exported OBJ files, and built the Omniverse virtual simulation environment.
- Deployed a robot in the simulated environment to achieve autonomous navigation through visual recognition of signs (such as room numbers and direction boards).

### Comparison of Image Recognition Algorithms

03.2025 – 05.2025

- Used OpenCV to implement local feature extraction and image classification (e.g., SIFT, ORB + BoW + SVM)
- Built and trained CNN models with PyTorch for image recognition
- Tuned model architectures and hyperparameters; evaluated performance on public datasets

### Leo Rover Autonomous Robot Project

09.2024 – 05.2025

- Built a mobile robot capable of autonomous exploration, object recognition, and safe navigation
- Assembled hardware including SLAMTEC LiDAR and Intel NUC for robot control
- Utilized ROS2 for map building, environmental perception (SLAM), and autonomous navigation (NAV2)

## Professional Skills

**Technical Skills:** C, C++, Python, ROS2, PyTorch, Linux, Raspberry Pi, STM32, Matlab, Microsoft Office (proficient in all)

**Languages:** Chinese (native), English (fluent), IELTS 6.5

**Certificates:** Achieved top performance in the National Computer Rank Examination (NCRE) and obtained the C Programming Certificate