Zihan Wang

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Personal Website Linkedin Github

Education

BS **Beihang University**, Automation — Sept 2021 – June 2025

- GPA: 3.61/4.0 87/100
- **Coursework:** Pattern Recognition and Machine Learning, Digital Signal Processing, Fundamentals of Automatic Control, Advanced Algebra for Engineering.

Experience

National University of Singapore, Research Assistant — Singapore, 2023.7 – 2023.12

Advisor: PhD. Wenshuo Wang

- Accomplished text-image multimodal matching with Clip and Transformer.
- Constructed a dataset based on semantic segmentation using Spacy
- Replicated the VGN and GIGA models for arm grasp .

Beijing Kaiyun Technology Co., Test Engineer Intern — Beijing, China, 2024.7 – 2024.8

- Designed scripted test programs with LUA on the Semi-Physical Simulation Test Software ETEST
- Accomplished semi-physical simulation on an embedded system lab box to design a smart clock with temperature and humidity sensing capabilities

Publications

Plasma-propelled ultra-quiet flying robotic system and power combination control method (Patent) — June 2024

Yixin Zhang, ***Zihan Wang***, Jiawei Zhang, Xuanlin Fan, Zhijun Li

Google Patent

Projects

Non-intrusive High-bandwidth Current Sensor — 2022.9 – 2022.12

- Processed the analog signal with the Rogowski Coil detection unit.
- Designed an absolute value circuit using an LM328 remote calculation amplifier.
- Added a voltage stabilizing chip to control and stabilize the voltage waveform.

Zhi Xing mini Robot — 2022.11 – 2022.12

- Designed and developed an autonomous navigation robot system based on ROS, supporting real-time LiDAR obstacle avoidance, SLAM mapping, and path planning.
- Utilized RViz for real-time debugging and visualization of map construction and path planning to ensure precision and reliability.
- Integrated Baidu Voice Recognition SDK to enable voice command features, enhancing human-robot interaction and control.
- Technologies Used: ROS, RViz, Gmapping, OpenCV, Baidu Voice Recognition SDK

Treasure Hunting Robot 2023.2 – 2023.5

Code

- Created a car with Arduino main control board and ESP32 communication board.
- Achieved fast and automatic route design and navigation that avoids randomly positioned obstacles, using proportional-integral-derivative (PID) control and Dijkstra's algorithms.
- Utilized OpenCV libraries to binarize and rectify the competition field to generate color block coordinates for target tracking.

Two Degree of Freedom Plasma Thruster 2023.9 – 2024.8

Advisor: Prof. Shaoping Wang, Assoc. Prof. Yixin Zhang

- Established a comprehensive system with a thruster, cruise controller, and power supply units.
- Constructed an integrated circuit for power supply, balancing power efficiency and unit lightweight.
- Designed a robotic arm that remotely controls the cruise with pitching and yawing.

Skills

Languages: Python, C, MATLAB, Pytorch

Tools: ROS, Gazebo, Multisim, Latex

English: TOEFL 101(W 27), GRE V:148 + Q:165

Awards

3rd prize, unified component group of robot visual confrontation in 2022 Intelligent Robot Fighting and Gaming Competition

3rd prize, 2021 32nd Beijing College Students Mathematics Competition

2nd prize, Academic Excellence Award of Beihang University

2nd prize, Academic Competition Award of Beihang University

National Level Award, China University Innovation and Entrepreneurship Competition