

XINYUAN AN

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EDUCATION

Zhejiang University Hangzhou Zhejiang
B.Eng. in Automation (Control Science and Engineering) Sep 2020 - Present

Overall GPA: 3.81/4.0 Third year GPA: 3.96/4.0

Main courses:

Calculus, Fundamentals of C Programming, Linear Algebra, Physics, Ordinary Differential Equations, Engineering Graphics, Complex Variable Functions and Integral Transformation, Probability and Mathematical Statistics, Robot Modeling and Control, Introduction to Big Data Analytics and Application, Artificial Intelligence and Machine Learning, Digital Image Processing.

RESEARCH EXPERIENCE

Following Robot Based on Vision and Lidar SRTP program Zhejiang University
May 2022 - May 2023

- **Project Details:** Based on vision and LiDAR, deep learning is used to achieve human detection and tracking on small and medium-sized mobile robots, and implement on embedded system deployment.
- **Work Content:** The visual system adopts the YOLOv5 object detection algorithm, while the radar uses the SVDD leg detection method to cluster the target person's legs. Using PID algorithm for robot motion control based on ROS.

Intelligent Garbage Sorting Robot Robot Competition Oct 2022 - May 2023

- **Project Details:** Using deep learning object detection algorithms for garbage recognition, and utilizing robotic arms and servo motion mechanisms for garbage classification. On this basis, the full load detection and automatic packaging functions of the garbage bin are implemented.
- **Work Content:** The upper computer uses YOLOv5 algorithm for garbage recognition and ROS Moveit! Package for robotic arm control. The lower computer is based on Arduino for motion control of ultrasonic sensors, servo motors, and DC motors.

Coaxial McNamm wheel balance trolley Curriculum Design Sep 2022 - Jan 2023

- **Project Details:** Design a four wheel coaxial McNamm wheel robot, using STM32 and brushless DC motor control drive, and PID algorithm to control the robot to achieve self balance and omnidirectional movement functions.
- **Work Content:** Responsible for machining the robot structure, writing the STM32 motion control main program, and adjusting the balance PID parameters.

RoboCup Football Robot Competition Small Size League Feb 2023 - Present

Member of "ZJUNlict" Software Team

- Maintain underlying vehicle motion control codes
- Adjusting robot kicking and passing strategies
- Testing the motion performance of robots

Autonomous Pallet Localization and Picking for Forklifts Based on Deep Camera

Jun 2023 - Present

- **Project Details:** On industrial forklifts with depth cameras, the position and posture of the pallets are estimated using object detection methods, and the movement trajectory of the forklifts is planned to achieve precise forking of goods.
- **Work Content:** Using deep learning methods to quickly locate pallets, using traditional image processing methods to accurately locate pallets, and designing path planning algorithms to control the precise insertion of forklifts into pallets.

AWARDS

Scholarships and Honors:

National Encouragement Scholarship

Government
Nov 2021, Nov 2022

Zhejiang University Third-Class Scholarship

Zhejiang University
Nov 2021

Excellent Students, Academic Excellent, Student Volunteer, Student Innovation and Entrepreneurship Award Zhejiang University

Competition Awards:

National College Student Innovation and Entrepreneurship Training Camp Smart City Competition —Third Prize Government
Jul 2022

The 7th Zhejiang RoboCon Small Size League Football Robot —First Prize Zhejiang Province
May 2023

The 9th Zhejiang Province College Student Engineering Practice and Innovation Ability Competition—Second Prize Zhejiang Province
Apr 2023

The 18th Zhejiang Province "Challenge Cup" Competition—Second Prize Zhejiang Province
Jul 2023

The 9th Zhejiang University College Student Engineering Practice and Innovation Ability Competition—First Prize Zhejiang University
Jan 2023

The 17th Zhejiang University Robot Competition—Third Prize Zhejiang University
May 2022

WORK EXPERIENCE

Koala Studio in School of Mechanical Engineering Zhejiang University
Minister of Technology Department Sep 2021 - Jun 2022

- Proficient in lathe, milling machine and other processing equipment
- Proficient in embedded development and robot control
- Preparation and arrangement of processing technical manual
- Teaching Task of Processing Technology and Embedded Development

EXTRACURRICULAR ACTIVITY

Academic Activity:

Excellent camper of Huawei Shengteng AI Innovation Training Camp
Jul 2022

Summer School Neuromatch Academy: Deep Learning
Jul 2022

Social Activity:

Zhejiang University Five-Star Volunteer Zhejiang University
Dec 2022

Excellent team member of the School of EE in social practice of "Promoting Volunteer Spirit"
Jul 2021

Excellent team member of the School of ME in social practice of "Xi'an Manufacturing Tour"
Aug 2022

Hobbies And Interests:

Music, Badminton, Table Tennis, Cycling

SKILLS

CET4: 612

CET6: 557

Programming Language: C/C++, Python, Matlab

Software Experience: ROS, Visual Studio Code, PyCharm, MATLAB, Keil, Word, Excel, PowerPoint

NCRE: Band II, Band III