ZHANG Hanlin

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Educational Background

Maynooth International Engineering College, Fuzhou University, China 09/2021-07/2025
Bachelor of Engineering in Automation and Bachelor of Science in Robotics and Intelligent Devices
GPA: 3.68/4.0 (88.01/100)
Main Courses: Algorithms and Data Structure (94/100), Object-Orientated Programming (90/100), Introduction to Control Systems (94/100), System Dynamics (90/100), Signal and System (90/100), Robotics&Automation (96/100), Differential Equations and Transformation Method (90/100), Probability and Statistics (87/100) etc.

Research Interest

Vision-Guided Robots; Trajectory Planning; Machine Perception (Computer Vision, Robot Tactile)

Publication

- Zongyan Wen, **Hanlin Zhang**.(2023) "Application of Neural Network in Stock Market Forecasting". Proceedings of the 3rd International Conference on Big Data Economy and Digital Management (BDEDM 2024).
- **Hanlin Zhang**, Y Xie., et al.(2024) "Rotated Object Detection Based on Improved Hough Transform", Proc. SPIE 13180, International Conference on Image, Signal Processing, and Pattern Recognition (ISPP 2024).
- **Hanlin Zhang**.(2024) "Optimal Grasping Gesture Detection of Objects in Unstructured Environment". AAAI-2025: Undergraduate Consortium Track. (Submitted)

Scientific Research Projects

Design of a 4G Monitoring System for the Status of Transmission Line and Laying Boards. 11/2022-09/2022
Core member, project funded by Fujian Power Distribution and Transformation Engineering Co., Ltd.

- Designed the visible monitor system for the tension line of transmission line;
- Participated in the installment of data collection system and transmit the information to the man-machine interactive system.

Design of Remote Switch Based on Internet System 03/2023-07/2023
Leader, course project

- Developed and used ESP8266 chip as the micro-controller and signal emission module;
- Grouped all online devices to Internet platforms for remote control through 4G Internet or WiFi.

Real-Time Image Analysis for Autonomous Vehicles 09/2023-12/2023
Leader, course project

- Realized real-time monitoring of automatic cars with YOLOv7 model and added attention mechanism to improve the performance;
- Did research on Attention Mechanism and made comparison between different placing ways to obtain the optimal performance.

Optimal Grasping Gesture Detection Based on Improved YOLO Model 03/2024-07/2024
Leader, laboratory project of Intelligent Perception and Network Research Group

- Image processed and analyzed based on serial YOLO network that two layers of YOLO networks are connected in series to increase detection precision on some rotated objects;
- Annotated and built datasets to train detection network, mainly focusing on grasping gesture detection;
- Detected and predicted real-time 3D object and grasping gesture with a color-depth camera: Kinect2.0 and a robotic arm: ABB IRB1200 industrial robot.

Honors and Awards

Merit Individual Scholarship for Spiritual Civilization (By competition) 07/2024
Merit Individual Scholarship for Spiritual Civilization (By competition) 07/2023
Merit Excellent Volunteer Award in Fuzhou University (By nomination) 07/2022
Merit Successful Participant in Mathematical Contest In Modeling (By participation) 05/2022
Second-class General Scholarship in Fuzhou University (Top 5%) 02/2022

Language & Skills

Language: Chinese (native), English (fluent)
IELTS Academic: 6.5 (Listening: 7.5, Reading: 6.5, Writing: 6, Speaking: 6)
IT Skills: Java, Python, MATLAB and ROS