Zhang Wei（張威）

Email:wzhang452@connect.hkust-gz.edu.cn | Tel: (+86) 15155719889

EDUCATION

Shanghai University of Electric Power   **Intelligent Science and Technology (Bachelor)**   *2020.09-2024.06*

Core Courses: Control System Simulation, intelligent Control Application Practice, Smart Energy Automation, **Embedded Computer Systems**, **Intelligent Information Processing Course Design**

GPA: 3.39**(4/38)**

SKILLS

- **Programming: MATLAB**, **Ubuntu**, Vscode
- **Software copyright:** Intelligent Wind Turbine Defect Detection Platform v2.0(2024R0131057)
- **Language Proficiency:** CET-6, Mandarin dimethyl

PRIZE

- **Three national awards:** The First National College Student Power Innovation Design Competition **Third Prize**.
- **Five provincial awards:** The 8th Shanghai Undergraduate Innovation and Entrepreneurship Training Program Achievement Exhibition **Excellent Display Project**., The 8th China International "Internet Plus" Innovation and Entrepreneurship Competition Shanghai Division **Silver Prize**.
- **Eleven school-level commendation: Outstanding graduate**, Advanced individual in social practice, The 9th China International "Internet Plus" Innovation and Entrepreneurship Competition School-Level Third Prize.

ACADEMIC EXPERIENCE

2022.09   **PipeFinder: Visualization Inspection Crawling Robot for High-Temperature Pressure Pipelines in Thermal Power Plants**   **(4/10)**

- Implementing internal inspections of pipelines in thermal power plants using **visual inspection robots**.
- Expanding the dataset, **preprocessing the dataset**, and training it in the PyTorch framework.
- Processing the video stream for **frame-by-frame recognition**.
- Achieving defect recognition for internal **pipeline leaks, weld seam anomalies**, and **rust spots** with a recognition rate of 95%.

2022.12 **Edge-cloud collaborative evolutionary intelligent defect detection system for power transmission line(2/4)**

- Utilizing intelligent tracking systems for **surface defect detection** on power transmission lines.
- Performing preprocessing on the video stream transmitted from the sky end.
- Utilizing **image segmentation** techniques to localize the transmission tower pole region, thereby enhancing recognition efficiency.
- **Comparing** the strengths and weaknesses of the YOLOv4 model under **CNN and TensorFlow** frameworks
- Implemented recognition of insulator damage and overhead hanging objects, achieving a recognition rate of 76%, thereby improving the efficiency of defect recognition.

2023.03-06   **A multifunctional motion system for a smart car implemented using a Raspberry Pi.**   **(1/4)**

- Using **Raspberry Pi** as the core to drive a four-wheel vehicle to **achieve autonomous motion**.
- Initialize the car, camera, burn the Raspberry Pi, and check if the output image is valid.
- Using **perspective transformation** to correct the image, draw road lane lines. Utilize curvature during car motion to control wheel speed changes, achieving differential speed control.
- Implement obstacle and traffic light recognition using deep learning and edge contour extraction.
- Achieved the effects of "**stop at red lights, go at green lights**" and "**autonomous obstacle avoidance,**" while also being able to complete the entire track of **the National University Student Intelligent Car Competition for full model group.**

SOCIAL ACTIVITIES

2021.07-08   **Social practice activity**   **Member**   *Jinshan District, Shanghai*

- By collaborating with local government and neighborhood committees, we conducted elderly assistance activities through lectures, questionnaire surveys, and distributing gifts.

2022.03-05   **Volunteer activity**   *Yanpu district, Shanghai*

- I worked as a volunteer to help the normal operation of the school, including nucleic acid volunteers, building volunteers, barber volunteers, etc., and spent more than 20 hours in total.

2022.07-08   **Social practice activity**   **Team leader**   *Suzhou City, Anhui Province*

- Connect with local government, interview service station staff, promote local customs via short video platforms, and educate villagers on smart agriculture through questionnaires and information sessions to understand the "rural revitalization" strategy.