Jiang Zhichao

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EDUCATION

Nanyang Technological University Singapore

- **Master, Computer Control and Automation** Aug.2021-Jun.2022

  Related Courses: Machine Vision, Computer Control, Video Signal Processing, Neural and Fuzzy System

East China University of Technology China

- **Bachelor, Electronic Information Engineering** Sep.2017-Jun.2021

  GPA: 3.7/4.0 Rank:2/84

  Related Courses: Sensors and Testing Technology (97), High-Frequency Electronic Circuit (95), Electronic System Design (99), Principle of Automatic Control (94), Embedded System Design (98)

PUBLICATION

G. Liu, **Z. Jiang** and Q. Wang, "Analysis of Gas Leakage Early Warning System Based on Kalman Filter and Optimized BP Neural Network," in IEEE Access, 2020, doi: 10.1109/ACCESS.2020.3026096.
(first student author)

RESEARCH EXPERIENCES

Dynamic Route Guidance Arithmetic Based on Deep Learning
-supported by Cyber Physical Intelligent System Research group @NTU, supervised by Prof Rong Su
Aug 2021-Now

- Build a simulation traffic network in an open-source simulator SUMO with extracted features from dynamic traffic flow, gather traffic data from the platform using Python API TraCI
- Apply Deep Q-Learning to optimal route guidance, find the best route and avoid congestions in a complex road network

Design and Realization of Inspection System for Electrical Equipment Based on the unmanned aerial vehicle (UAV)
Dec 2020-May 2021

- Built a UAV hardware platform with remote UAV status information and inspection images
- Constructed an electrical equipment inspection software interface using QT, Python, and OpenCV libraries
- Applied YOLO to do target recognition for the system
- Evaluated the pros and cons of various obstacle avoidance techniques and tested UAV obstacle avoidance method using the Gazebo simulation platform
- Analyzed the changes of attitude angle using MATLAB based on the data recorded in the flight log to evaluate the flight stability

Beidou Navigation and UAV Based Forest Fire Real-time Warning Platform **Jan 2020 -May 2020**

- Designed the hardware of the platform, including microcontroller programming, sensors selection, and components assembling
- Proposed a fire detection method based on the UAV platform and improve the efficiency of fire monitoring

Gas Leakage Warning System analysis **April 2019-Sep 2020**

- Proposed a method to detecting gas leaks, design and assembled the hardware framework
- Programed the microcontroller and simulated the circuit of the warning system using a professional circuit design software, and validate the feasibility of the system

- Published a circuit structure of a gas-meter controlled gas safety emergency device patent based on the research

WORK EXPERIENCE

Research Assistant **HUST-Wuxi Research Institute** **Jul.2019-Aug.2019**

- Participated in the warehouse system development research
- Developed XML communication interface and WebAPI communication interface based on the XML communication protocol and Webservice communication protocol
- Finished communication interface tests based on a given dataset using MySQL and C#

SKILLS

- Programming Language: Python, MATLAB, C, C#
- Software/Simulation Tools: LaTeX, Gazebo, Linux
- Languages: English, Native Chinese

HONORS & AWARDS

- National Scholarship, Ministry of Education of China (Top 0.5%) 2020
- Special Scholarship, East China University of Technology (Top 1%) 2020
- First-class Scholarship, East China University of Technology (Top 2%) 2019
- First Prize of East China competition area in BeiDou-Cup China Science and Technology Invention Contest 2020
- First Prize of the 16th College Student Science and Technology Innovation Fund Project Competition 2019
- The title of outstanding student, East China University of Technology (Twice) 2018,2019

SELF-EVALUATION/ INTERESTS

- Self-Evaluation: self-organized, Reliable, Studious and Conscientious
- Research interest: Control system, Reinforcement learning, Smart cities
- Personal interests: Piano, Swimming, Badminton, Sky-diving