

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

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- Coding: C, Python, C#
 - Software/Simulation Tools: Protel, Gazebo, Proteus, Linux
 - Languages: English, Native Chinese

HONORS & AWARDS

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| ● 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 16 th 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

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