Qigang Xiang
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EDUCATION

University of Sussex (Sussex Artificial Intelligence Institute at Zhejiang Gongshang University) Hangzhou, China
Bachelor of Engineering Aug 2021 - Jun 2025

- Major: Robotics and Electrical Engineering
- Interim Result: 1st class

RESEARCH EXPERIENCE

Intelligent Sterilization Housekeeper Based on IoT, Visual Recognition and Deep Learning Nov 2023 - Now
Project for University Level College Student Innovation and Entrepreneurship Competition

- Participated in the design of intelligent robots.
- Completed project milestone reports.

A CNN-based Early Warning System for Water Safety of Unmanned Aerial Vehicles Apr 2023 - Apr 2024
Project for National Level College Student Innovation and Entrepreneurship Competition

- Performed drone testing and image recognition sample mapping.
- Developed distance algorithms.
- Completed manuscript writing and slide deck for project defense.

Eagle Eye in Water - UAV AI Thermal Imaging Based Early Warning System for Water Safety Nov 2022 - Dec 2023
Project for University Level College Student Innovation and Entrepreneurship Competition

- **Project Overview**: Developed an advanced drone-based early warning system for water safety, utilizing AI and thermal imaging technologies.
- **Key Responsibilities:**
  - ✓ Authored sophisticated image processing algorithms using **OpenCV** to analyze thermal images for identifying potential water-related hazards.
  - ✓ Directed the image recognition testing phase, ensuring accurate identification and analysis of thermal images captured by the drone.
  - ✓ Crafted the project presentation, effectively communicating the technological innovations and potential impact of the system to stakeholders and competition judges.
  - ✓ Coordinated the segmentation and labeling of thermal images using **LabelMe** on virtual machines, which were essential for training the AI system to recognize different scenarios in water safety.
- **Achievement**: Revolutionized water safety protocols by enabling early detection of individuals at risk in water bodies, reduced response times and would potentially saving lives through quicker deployment of rescue measures.

Artificial Intelligence and Machine Learning Aug 2023
Online Project Based Research Seminar

- **Supervisor**: Prof Mark Vogelsberger (MIT Physics)
- **Research Method**: Developed a hybrid model with **Python** using **LSTM**, **CNN**, and **deep learning** techniques on the PyCharm platform, aimed at achieving superior efficiency and reduced error rates in predictive modeling.
- **Key Responsibilities:**
  - ✓ Authored and prepared research papers for publication and presentation.
  - ✓ Constructed, tested, and refined predictive models.
  - ✓ Debugged models and solved technical issues.
  - ✓ Performed data analysis and made predictions based on model outputs.

- **Achievement**: Authored "*Cryptocurrency Assets Valuation Prediction based on LSTM, Neural network, and Deep Learning Hybrid Model*", accepted by International Conference on Signal Processing and Machine Learning 2024.

An Intelligent Disinfection Manager Based on IoT, Visual Recognition, and Deep Learning May 2023 - Aug 2023

Project for the 6th National University Intelligent Robot Creative Competition

- **Project Overview**: Developed a multi-functional intelligent robot within an integrated smart home management system.
- **Key Responsibilities:**
  - ✓ Crafted detailed robot models, focusing on functionality for disinfection tasks and environmental navigation.
  - ✓ Produced a comprehensive 3D animation to demonstrate the robot's capabilities and operational procedures, enhancing the understanding and engagement of the target audience.
  - ✓ Authored and meticulously revised the project's final defense paper, successfully communicating the technical details and innovations to a panel of experts during the competition.
- **Achievement**:: Addressed critical challenges in traditional cleaning methods by introducing a drone capable of accessing hard-to-reach areas and performing autonomous disinfection. This approach not only reduces the physical risks to human cleaners but also increases the efficiency and scope of cleaning operations in complex environments such as high-rise exteriors.

INTERNSHIP EXPERIENCE

Zhejiang Mashang Technology Company Jul 2024 - Sep 2024

RFID Technology Technician Intern

- Engaged in advanced research and development of RFID technology within a high-tech enterprise specializing in anti-counterfeiting technologies.
- Collaborated on interdisciplinary teams to innovate and enhance software development, packaging identification, and anti-counterfeiting label printing.
- Contributed to projects involving the integration of digital electronic code anti-counterfeiting labels, enhancing product security and traceability.

Cangnan County Radio and Television Network Company Jun 2023 - Sep 2023

Technical Assistant, Department of Engineering and Technology

- Provided technical support in the construction and maintenance management of cable broadcasting and television networks, ensuring high standards of service and operational efficiency.
- Assisted in the installation of various technical equipment including broadcasting and television network devices, digital audio/video products, electronic products, office automation equipment, and communication lines.
- Involved in the development and application of computer network data, contributing to advanced solutions in enterprise management services.

HONOURS AND AWARDS

- 3rd Prize - Zhejiang Provincial College Students Advanced Mathematics Competition (Engineering Category) Jun 2024
- Individual Scholarship of 2023 May 2024
- Individual Scholarship of 2024 May 2025
- 3rd Prize - Zhejiang Provincial Physics Innovation Competition Sep 2023
- 2nd Prize - the 6th National College Intelligent Robot Creativity Competition Aug 2023
- 2nd Prize - University-level Intelligent Robot Creative Competition Aug 2023
- 2nd Prize - the 5th Zhejiang College Students Intelligent Robot Creativity Competition Jun 2023
- 3rd Prize - University-level Intelligent Car Competition Dec 2022