HUANG Jiacheng

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EDUCATION

Fuzhou University, National University of Ireland Maynooth (Sino-Foreign Joint Training Mode) 09/2021-06/2025
Bachelor of Engineering (Expected) in **Electronic Information Engineering**
GPA: 3.698/4.0
IT Skills: Altium Designer, Python, MATLAB, C++, HTML, JavaScript, Markdown, LaTeX

PUBLICATIONS

Securing Billion Bluetooth Low Energy Devices Using Cyber-Physical Analysis and Deep Learning Techniques 19/06/2024
Hanlin Cai, Yucheng Fang, Jiacheng Huang, Honglin Liao, Meng Yuan, Zhezhuang Xu
Included by *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2024*.

Hybrid Detection Mechanism for Spoofing Attacks in Bluetooth Low Energy Networks 20/04/2024
Hanlin Cai, Yucheng Fang, Jiacheng Huang, Meng Yuan, Zhezhuang Xu
Included by *ACM International Conference on Mobile Systems, Applications, and Services (MobiSys,* attended in Tokyo*), 2024.*

LEET: Stock Market Forecast with Long-Term Emotional Change Enhanced Temporal Model 08/03/2024
Honglin Liao, Jiacheng Huang, Yong Tang
Included by *PeerJ Computer Science (IF: 6.1, JCR:Q1).*

Research and Design of Unicycle Robot Based on Cascade PID Control 08/11/2023
Jiacheng Huang
Included by *International Conference on Mechatronic Engineering and Artificial Intelligence (MEAI), 2023.*

Research on Automatic Pricing and Replenishment Decision of Vegetable Commodities Based on Penalty Function LSTM Model 19/09/2023
Jiacheng Huang, Honglin Liao, Shujuan Chen
Included by *International Conference on Information Engineering, Electronics and Communication Technology (IEECT), 2023.*

mmPowerHAR: A Framework Using mmRadar for Human Activity Recognition in Power Station 06/05/2024
Jiacheng Huang, Honglin Liao, Hanlin Cai, Hao Jiang, Jing chen
Submitted to *IEEE Transactions on Network Science and Engineering (Under Review).*

RESEARCH & PROJECTS

Development of a Self-balancing Unicycle Robot Based on Visual Inspection 06/2023-present
National Undergraduate Innovation and Entrepreneurship Training Programme
Supervisor: Prof. Wang Wu, Fuzhou University

- **Outline:**
  Developed a unicycle robot capable of adapting to complex terrain and conducting visual inspections in realistic industrial production environments;
- **Responsibilities:**
  Utilised Altium Designer for circuit design, conducted dynamic modelling of the unicycle robot, and developed machine vision in the field of robotics;
- **Achievement:**
  Secured a research grant over $3000; Authored a international conference paper and a software copyright.

Intelligent Detection and Monitoring System for Underwater Fish 06/2023-06/2024
Provincial Undergraduate Innovation and Entrepreneurship Training Programme
Supervisor: Prof. Chen Weiling, Fuzhou University

- **Outline:**
  Elevated the application of the YOLO object detection algorithm in the field of underwater biology and visualized the analysis of detection data;
- **Responsibilities:**
  Established a client cloud platform and a mini-program app to analyse and provide real-time querying of detection information visually;
- **Achievement:**
  Secured a research grant over $1500; Completed the final project completion report.

Application of Microcontrollers to the Design of Intelligent Bodies and Digital Manufacturing such as 3D Printing 05/2023-07/2023

Supervisor: Prof. Michael Littman, MAE Departmental Representative and Director of Undergraduate Studies, School of Engineering and Applied Science, Princeton University

- **Outline:**
  Explored the analysis of the PD controller-based DC motor control model in the field of 3D Printing and conducted research on its applications;
- **Responsibilities:**
  Analysed the micro-electromechanical systems of digital control circuits using Falstad and Tinkercad based on mechanical automation feedback;
- **Achievement:**
  Authored a international conference paper and received a recommendation letter from the supervisor.

INTERNSHIP EXPERIENCES

Imperial Vision Technology/Power System and Equipment Industry Research Institute, Fuzhou University National Science Park 01/09/2023-present

Research Assistant (supervised by Prof. Jiang Hao, Fuzhou University and Prof. Chen Zhenghua, Nanyang Technological University)

- **Outline:**
  Based on the situations at the power distribution station, using mmWave radar evaluation boards to realise the determination of personnel posture and trajectory tracking;
- **Responsibilities:**
  Implemented real-time data collection using TI's mmWave radar, developed deep learning algorithms and achieved human pose classification;
- **Achievement:**
  Authored a research paper and submitted to IEEE Transactions on Network Science and Engineering.

Xiamen Fanshi Intelligent Technology Co., Ltd. 25/05/2023-25/02/2024

Embedded Software Engineer (supervised by Prof. Jiang Hao, Fuzhou University)

Project: Development of an Indoor Positioning Miniature UAV for Industrial Site Inspection

- **Outline:**
  Developed a miniature UAV capable of indoor positioning to automate inspections in industrial settings;
- **Responsibilities:**
  Tested UAV hardware circuit boards, implemented Mavlink UAV communication, developed indoor inspection algorithms, and designed upper computer software systems;
- **Achievement:**
  The drone prototype was successfully realized and showcased in Fuzhou Innovation Park.

Fujian Qipu Xinchuang Technology Co., Ltd. 23/07/2023-30/08/2023

Embedded Engineer (supervised by Prof.Li Binglei, Fuzhou University)

Project: Development of an Intelligent Mining Ventilation Door Control System

- **Outline:**
  Addressed the challenge of remote ventilation door control in mining environments by designing a fast door motor communication control system using ESP32;
- **Responsibilities:**
  Designed communication circuit boards using Altium Designer, customized MQTT communication protocols, and developed software application systems;
- **Achievement:**
  Applied the designed product in industrial production, with plans to apply for one patent.

AWARDS & HONOURS

Comprehensive Third Class Scholarship, Fuzhou University (two times)	03/2023 & 03/2024
Honorable Award in COMAP's Mathematical Contest In Modeling	02/2024
First Prize and Best Technical Innovation Award in Cross-Strait Information Service Innovation Competition and Fujian Computer Software Design Competition	12/2023
International Bronze Award in International "Internet+" Innovation and Entrepreneurship Competition	11/2023
Second Prize in National Collegiate Internet of Things Technology and Application Competition	08/2023
Third Prize in Fujian Division, National Undergraduate Electronic Design Competition	08/2023
Individual Third Class Scholarship, Fuzhou University	12/2022
Comprehensive Second Class Scholarship, Fuzhou University	03/2022