

# Mr. Hanlin CAI

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D.O.B. Nov. 01, 2002

## EDUCATION

- **Fuzhou University (China-Ireland Cooperative Program, Full time at FZU)** Fuzhou, China  
*Bachelor of Engineering - Automation; CGPA: 3.81/4.00; Rank: Top 10%* Sep 2020 - June 2024  
*Bachelor of Science - Robotics (Maynooth University, Ireland, Combined Degrees)*  
*Courses (All A+): Control System, Digital Systems, Embedded Systems, Signal Processing, System Dynamics, Algorithms and Data Structures, Object-Oriented Programming, Operating System, Engineering Computing, Analogue Electronics, Robotics and Automation*

## SKILLS SUMMARY

- **Programming:** Python, MATLAB, JAVA, C++, HTML, CSS, JavaScript, SQL, Bash
- **Tools:** GIT, Docker, Conda, Jupyter, Stata, Navicat, OBS, L<sup>A</sup>T<sub>E</sub>X, EndNote
- **Platforms:** Linux, macOS, ROS, Cloud, Arduino, Raspberry Pi, Quadruped Robot
- **Languages:** English (IELTS 6.5), Mandarin (Native), Hokkien (Native), Japanese (Basic)
- **Soft Skills:** Leadership, Public Speaking, Time Management, Pressure Management

## PRACTICAL EXPERIENCE

- **Huading Intelligent Manufacturing Technology Co. LTD** Fuzhou  
*Embedded Development Intern (Full-time, supervised by SN.ENGR Yuxiong Xia)* Feb 2023 - Present
  - **Cloud Database:** Designed a Cloud database to store the data collected by various sensors in industrial scenarios.
  - **Data Visualization:** Utilized JavaScript framework to visualize the instrumentation data on client management panel.
  - **Ratchet PHP WebSocket:** Implemented a WebSocket for low-latency real time exchange of posts and thread updates.
- **Key Lab of Industrial Automation Control Technology and Information Processing** Fuzhou  
*Research Assistant (Part-time, supervised by Prof. Zhezhuang Xu)* Dec 2022 - Present
  - **RMS Testbed:** Established and improved a Real-time Monitoring System Testbed for IoT cybersecurity research.
  - **Detection Algorithm:** Designed a supervised learning algorithm to identify and classify malicious network traffic.
  - **Management:** Collaborated with Prof. Xu to manage and tutor 6 junior members in our laboratory.
- **Cambridge Centre for the Integration of Science, Technology and Culture** Remote  
*Research Intern (Part-time, supervised by Prof. Pietro Liò)* June 2022 - Dec 2022
  - **Summer Research programme - Hosted by St. John's College:** Practiced basic artificial intelligence theory.
  - **Literature Review:** Completed a 4,000-word report by summarizing over 50 papers in the field of attack detection.
  - **Assessment:** Evaluated as **Excellent Performance** (Top 5%) in the research report and presentation.

## PUBLICATIONS

- **Deep Residual Neural Network for Efficient Traffic Sign Detection, First Author:** Accepted by 2023 International Conference on Artificial Life and Robotics (ICAROB 28th), advised by Dr. Chin Hong Wong and Dr. Wei Hong Lim.
- **An IoT Garbage Monitoring System for Effective Garbage Management, First Author:** Accepted by 2022 International Conference on Computer Engineering, Network and Intelligent Multimedia, advised by Dr. Chin Hong Wong.
- **RMS Testbed for IoT Cybersecurity Using Machine Learning Based Approach, First Author:** Working paper, advised by Prof. Zhezhuang Xu, still under working and expect to be finalized in Sep 2023.

## HONORS AND AWARDS

- Xiamen Air Scholarship (**Highest undergrad honor at FZU**), First Prize Scholarship (**Three Times, \$2700\*3**)
- Finalist Award in COMAP's Mathematical Contest In Modeling (Top 1% of all 20508 paper) - May, 2023
- First Prize (**Championship, top 1%**) in Youth Science Popularization Innovation Project Competition - May, 2023
- First Prize (Provincial Level, top 5%) in China Undergraduate Mathematical Contest in Modeling - Dec, 2022
- Champion of 100-meter Freestyle Swimming Competition of Fuzhou University (National Class-2-level) - June, 2022

## VOLUNTEER EXPERIENCE

- **Deputy President of Volunteer Department, Youth League Committee of FZU** Fuzhou, China  
*Took charge of the planning, operation, and publicity of FZU's volunteer service work.* Sep 2021 - Sep 2022
- **Top 10 Best Volunteers (Only 10/30000) of the year 2021-2022 at FZU** Fuzhou, China  
*Organized 39 activities, personal volunteer service time exceeded 240 hours in this year.* May 2021 - May 2022
- **Outstanding Volunteer in 44th Session of the World Heritage Committee** Fuzhou, China  
*During the committee, responsible for 11 volunteer activities with over 890 participants.* June 2021 - July 2021