**O Jing**
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## EDUCATION

**Nanyang Technological University, Singapore** Aug 2022 - Jul 2026
**Bachelor of Engineering in Computer Engineering,** cGPA: 4.50/5.00 (Current)

- Expected Honours (First Class)
- Achieved Distinction in: Data Structure & Algorithms, Object Oriented Design & Programming, Microprocessor System Design & Development, Sensors Interfacing & Digital Control.
- Relevant Modules: Digital Logic, Computer Organisation & Architecture, Introduction to Data Science & AI, Algorithm Design & Analysis.

## AWARDS & ACHIEVEMENTS

**Inclusivity & IoT** Jan 2024 - Jan 2024
**Title: Escendo Hackathon 2024**

- Championed the creation of the "Tipping Hat" IoT prototype, harnessing the power of ESP32/-S3 microcontrollers to effectively tackle heat stress issues experienced by migrant workers.
- Successfully implemented ESP_NOW low-latency protocol for seamless communication, enhancing the responsiveness of the prototype. Utilised freeRTOS to facilitate asynchronous operation of the program logic.
- Demonstrated proficiency in IoT and cloud technology, consolidating skills in hardware development, communication protocols, and cloud integration.
- Attained recognition for contributing to impactful sustainable and inclusive solutions, awarded with prestigious Micron Sponsor's Choice award at the Escendo hackathon 2024.

**Sustainability & IoT** Aug 2023 - Aug 2023
**Title: IEEE NUS x NTU Aquaponics Hackathon 2023**

- Led a collaborative team of five members in the successful development of the "CloudSensor" monitoring system.
- Spearheaded the integration of key sensors, ESP32 microcontroller, and AWS IoT. showcasing strong leadership and technical skills in the field of Internet of Things (IoT) and sustainability.
- Implemented Grafana for secure and efficient data communication and visualisation, contributing to the robustness of the monitoring system. Ensured real-time monitoring and data analysis, providing actionable insights for sustainable aquaponics practices.
- Received the first prize at the IEEE NUS x NTU Aquaponics Hackathon 2023, acknowledging the project excellence and innovation.

## ACADEMIC PROJECTS

**Object Oriented Programming Project** Aug 2023 - Nov 2023
**Title: Camp Application and Management System (CAMs)**

- Created CAMs, an application for staff and students to manage, view and register for camps within NTU in Java, using Git version control to collaborate seamlessly with my team.
- Applied OOP and SOLID principles, along with MVCS design patterns. Generated comprehensive UML class diagram illustrating class relationships and produced detailed Javadoc for clear documentation and code readability.
- Demonstrated problem-solving skills by meeting all functional requirements for CAMs. Ensured robustness through rigorous testing and adherence to software development best practices.
- Managed the project successfully and met all functional requirements and goals.

**Embedded System Design Project** Aug 2023 - Oct 2023
**Title: GasSentinel, Gas leak detector**

- Engineered device employing low-power neural networks and sensor fusion to provide low-latency and accurate detection of gas leaks, showcasing proficiency in embedded programming in C++.
- Leveraged BSEC software/BME-AI-Studio Studio by Bosch to execute signal processing, seamlessly integrating machine learning models into the AIoT development process.
- Applied skills in networking and developed the constrained application protocol server in python for the GasSentinel device connected to the OpenThread network, with the server hosted on a Raspberry pi.
- Contributed greatly to the project success and resulted in a remarkable 99.39% accuracy in detecting butane gas leaks.

**Data Science & Analytics Project** Feb 2023 - Apr 2023
**Title: Heart Disease Prediction**

- Conducted comprehensive data preprocessing, cleaning, and feature extraction on medical symptoms data to determine factors influencing the likelihood of heart disease. Leveraged expertise in Python for efficient analysis.

- Implemented machine learning models, including support vector machine and logistic regression on the extracted features. Employed NumPy, Pandas and MatplotLib for data manipulation, analysis and visualisation.
- Achieved commendable accuracy of 89.00% in determining the patient's likelihood of heart disease and demonstrated proficiency in these essential data science tools.

## SKILLS

Languages: English, Chinese
Programming: Python, Java, C, C++, Verilog, HTML, CSS, JavaScript, React, Nodejs, Firebase.
Other Skills: Git, GitHub, STM32CubeIDE, Code Composer Studio, PuTTy, SerialPlot, Zoom, Google Meet, Microsoft Teams.

## INTERESTS

Relevant Online Courses:

- AWS Cloud Quest: Cloud Practitioner.
- Duke University: Programming Foundations with JavaScript, HTML and CSS.
- University of Michigan: Introduction to HTML5.
- Duke University: Introduction to Machine Learning.
- University of Michigan: Introduction to Data Science in Python.