

TAN WEI QIANG BENJAMIN

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EDUCATION & QUALIFICATION

Bachelor of Engineering (Electrical Engineering), National University of Singapore (NUS) **AUG 2018 – PRESENT**
• Specialisation: Internet of Things; Industrial Tracks: 5G and Next Gen Networks and Advanced Electronics.

JOB EXPERIENCE

Intel's AI for Youth Program Instructor **AUG 2021 – PRESENT**
• To facilitate and conduct Intel's AI for Youth Program for Secondary and Junior College's students to promote youth's interests in the emerging field of Artificial Intelligence (AI).

Internet of Things Engineer Internship **MAY 2021 – JUL 2021**
• Developed a Python script to replace popular Modbus testing tool (Modbus Poll) for data collection and testing.
• Created a data pipeline to AWS Timestream Cloud using AWS SDK for storage and visualisation.
• Visualised data collected using AWS Quicksight and AWS Managed Grafana to track devices' health conditions in real-time. Dashboards would also trigger alerts according to user's setpoints.
• Miscellaneous: documentations for proper handover, procurement of hardware products and data entry.

Coding Tutor Freelance **JUL 2020 – MAY 2021**
• Conducted programming lessons for students aged 7-15 and taught them basic C++, HTML and CSS languages.
• Provided timely feedbacks to students' works via email and created easy-to-digest weekly notes to facilitate learning.
• Course 1: Indie Game Design:

- Used open-source library (SFML) for the rendering of window, graphics, and audio modules into game applications.
- Created classical games such as Tetris and Race Car in C++ as take-home projects.

• Course 2: Basic Frontend Development:

- Used HTML and CSS to design and built websites using open-source templates.
- Created sub-domains using GitHub to make student's website publicly available.
- Used modern web design tool such as Google Sites to create websites using Graphical User Interface (GUI) method.

Internet of Things Engineer Internship **MAY 2020 – DEC 2020**
• Revised and updated company's firmware applications in Linux OS by adding the following functionalities into the system:

- Added cryptography functionality (AES 128) using openssl to securely perform data transfer between devices.
- Improved cloud to device control methodology from using SSH to MQTT JSON API.

• Wrote a Python script to automate email subscription services to alert customers of any anomaly in data collected.
• Hardware testing of smart sockets:

- Data collection using MQTT, storing of data locally using sqlite3 and visualisation of data using matplotlib.

• Miscellaneous: procurement of hardware products.

RELEVANT COURSEWORKS

CS2040C Data Structures and Algorithms **AY20/21 S2**
Learning fundamental data structures and algorithms concepts.
EE2028 Microcontroller Programming and Interfacing **AY19/20 S1**
Programmed LPC 1769 ARM Cortex M3 Baseboard using NXP LPCXpresso (C programming and ARM Assembly language).
CS1010E Programming Methodology **AY19/20 S1**
Learnt fundamental programming concepts in Python.
EE2026 Digital Design **AY18/19 S2**
Programmed Digilent Basys 3 FPGA Baseboard using Xilinx Verilog (C programming).

LEADERSHIP EXPERIENCE

AIESEC in NUS | Global Information Session 2019 | Team Leader (Marketing) **SEP 2019**
Planned and executed marketing strategies to promote AIESEC Volunteering Projects to the NUS student body.
AIESEC in NUS | August Recruitment OC 2019 | Team Leader (Logistics, Finance and Admin Matters) **JUN 2019 – AUG 2019**
Negotiated with external companies for product and cash sponsorships.
Engin' Club | Engin' O'Week 2019 | Head of Programs (Games, Academics and Finale) **MAY 2019 – JUL 2019**
Oversaw 3 sub-groups and executed a freshmen orientation camp with over 900 participants.
Electrical and Computing Engineering (ECE) Club | Impetus Camp 2019 | Organising Committee **MAY 2019 – JUL 2019**
Assisted with the execution of the games and logistical matters during orientation camp.

RELEVANT CERTIFICATIONS / AWARDS

Database Management Essentials **JUN 2021**
Credentials: <https://www.coursera.org/account/accomplishments/certificate/8EWQUZVEMKB2>
Google Cloud Platform Big Data and Machine Learning Fundamentals **JAN 2021**
Credentials: <https://www.coursera.org/account/accomplishments/certificate/P6N5YW2MTQH9>
NUS iDP Ideathon -- Ideate 2020 | Team: CAMmunication **AUG 2020**
• Topic: Innovate ways to improve remote collaboration (link: <https://ideate2020.devpost.com/>).
• Solution: A software application that uses computer's camera to scan and predict emotions through Artificial Intelligence and Machine Learning Algorithms.
• Result: 1st Place (out of 85 participants) Credentials: <https://ideate2020.devpost.com/project-gallery>

RELEVANT SKILLS

- Hard skills:
 - Linux OS and command line interface.
 - C / C++ (for embedded systems and scripting).
 - Python (for scripting).
- Proficient in English and Chinese (simplified) languages.
- Comfortable with the use of collaboration tools such as Gitlab, Google Drive, Slack and Jira.