

# TAN WEI QIANG BENJAMIN

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## EDUCATION & QUALIFICATION

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

## INTERNSHIP EXPERIENCE

### Sustainable Living Lab, Singapore

*AI for Citizen Program Instructor*

**FEB 2022**

- A Values-in-Action (VIA) program for Secondary school students to program an AlphaMini robot.

*AI for Youth Program Instructor*

**AUG 2021 – JAN 2022**

- An enrichment program for Secondary and Junior College students to promote youth's interests in Artificial Intelligence.

### Hydroleap Private Limited, Singapore

*Internet of Things Engineer Internship*

**MAY 2021 – JUL 2021**

- Developed a Python script to replace the 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 visualization.
- Visualized data collected using AWS Quicksight and AWS Managed Grafana to track devices' health conditions in real-time. Dashboards would also trigger alerts according to the user's setpoints.

### Raffles Learning Lab, Singapore

*Basic Frontend Developer Instructor*

**JAN 2021 – MAY 2021**

- Taught students how to create their own websites and host them on GitHub using a sub-domain.
- Provided students with alternative modern web design tools such as Google Sites to create websites using the Graphical User Interface (GUI) method.
- Gave timely feedback to students' works via email and created easy-to-digest weekly notes to facilitate learning.
- Languages used: HTML, CSS, JavaScript.

*Basic Game Developer Instructor*

**JUL 2020 – DEC 2020**

- Used an open-sourced library called Simple and Fast Multimedia Library (SFML) for the rendering of application window, game graphics, and audio modules so students can have hands-on experience creating classical games such as Tetris and Race Car games from scratch.
- Provided timely feedback to students' works via email and created easy-to-digest weekly notes to facilitate learning.
- Language used: C++.

### Resync Technologies Private Limited, Singapore

*Internet of Things Engineer Internship*

**MAY 2020 – DEC 2020**

- Revised the 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.
- Data collection from smart sockets using MQTT, storing and visualization of data using sqlite3 and matplotlib respectively.

## RELEVANT COURSEWORK

### 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**

- Learned 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, Singapore

*Team Leader (Marketing), Global Information Session 2019*

**SEP 2019**

- Planned and executed marketing strategies to promote AIESEC Volunteering Projects to the NUS student body.

*Team Leader (Logistics, Finance and Admin Matters), August Recruitment Organising Committee 2019*

**JUN 2019 – AUG 2019**

- Negotiated with external companies for product and cash sponsorships.

### Engin' Club, Singapore

*Head of Programs (Games, Academics and Finale), Engin' O'Week 2019*

**MAY 2019 – JUL 2019**

- Oversaw 3 sub-groups and executed a freshmen orientation camp with over 900 participants.

### Electrical and Computing Engineering (ECE) Club, Singapore

*Organising Committee, Impetus Camp 2019*

**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**

Result: 1<sup>st</sup> Place (out of 85 participants) Credentials: <https://ideate2020.devpost.com/project-gallery>