

TAN WEI QIANG BENJAMIN

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EDUCATION & QUALIFICATION

Bachelor of Engineering (Electrical Engineering), National University of Singapore (NUS) **AUG 2018 – JUN 2022**
• Grade: **Honours (Distinction)**; Specialisation: **Internet of Things**.

WORK EXPERIENCE

Government Technology Agency (GovTech) - Sensors and Internet of Things, Singapore **JUN 2022 – PRESENT**
System Software Engineer (I)
• Built an in-house Employee Management System (EMS) by integrating with third-party facial recognition and card access systems using API.
• The EMS is a full stack application that adheres to stringent government policies.
• The EMS improved Human Resource (HR) Personnel workflow by reducing the number of times needed for manual entry and the automated removal of access rights via a scheduling service.
• Technologies used: Flutter (Web), Nodejs, Express, MongoDB, Docker.

INTERNSHIP EXPERIENCE

Sustainable Living Lab, Singapore **AUG 2021 – FEB 2022**
Program Trainer
• Taught students to program AlphaMini robot using the "Alpha Mini" mobile application.
• Promoted youth's interests in Artificial Intelligence via hands-on projects e.g. Image classification of Hand Gestures.
• Technologies used: Sci-kit Learn, Tensorflow, OpenCV, Jupyter.

Hydroleap Private Limited, Singapore **MAY 2021 – JUL 2021**
Internet of Things Engineer Internship
• Developed an in-house Python script to act as a Gateway to stream data from edge sensors to the cloud over ModbusTCP.
• Maintained a time-series database using AWS Timestream Cloud.
• Visualisation of time series data and alerts page over a dashboard created using AWS QuickSight and Grafana.
• Technologies used: Python, AWS Web Services

Raffles Learning Lab, Singapore **JUL 2020 – MAY 2021**
Course Instructor
• Taught students basic frontend frameworks such as:
 ○ HyperText Multimedia Language (HTML) and Cascading Style Sheet (CSS).
 ○ Public hosting of a personal website on Github Pages.
 ○ Creating a website using Graphical User Interface (GUI) such as Google Sites.
• Taught students basic game design frameworks such as:
 ○ Rendering of graphics, audio modules, in-game text, etc. using Simple and Fast Multimedia (SFML) library.
• Created easy-to-digest notes and provided timely feedback on students' works to facilitate learning.

Resync Technologies Private Limited, Singapore **MAY 2020 – DEC 2020**
Internet of Things Engineer Internship
• Added the following functionalities to the company's existing firmware:
 ○ Symmetrical key cryptography using the AES 128 standard to securely transfer data from edge devices to the cloud.
 ○ Added cloud to device control methodology using MQTT and JSON API.
• Wrote Python script to automate email subscription service to alert clients of any anomaly in the data points collected.
• Testing and installation of smart sockets and smart energy meters on-site.
• Technologies used: C++, Python

FINAL YEAR PROJECT

EE4002D Design Capstone: OnSight – Navigational Aids for the Visually Impaired (VIs) **AUG 2021 – APR 2022**
• Objective: With as little human assistance as possible, OnSight aims to assist the VIs in navigation in an indoor environment.
• Findings: Mobile phone plays an important role in helping the VI in their day-to-day activity. We want to incorporate indoor navigation into their mobile devices for a seamless experience.
• Proposed Solution: We used Bluetooth Low Energy to for indoor localisation (trilateration) and an in-built magnetometer to estimate VI's orientation. A suggested direction will be generated and passed onto the VI using haptic feedback.
• Technologies used: Flutter, DynamoDB

LEADERSHIP EXPERIENCE

AIESEC in NUS, Singapore

Team Leader, Global Information Session 2019

SEP 2019

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

Team Leader, August Recruitment Organising Committee 2019

JUN 2019 – AUG 2019

- Negotiated with external companies for product and cash sponsorships.

Engin' Club, Singapore

Head of Programs, Engin' O'Week 2019

MAY 2019 – JUL 2019

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

EE4002D FYP Poster Design 2022

APR 2022

Result: 3rd Place Credentials: https://btwq97.github.io/assets/certs/poster_design.pdf

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