JABEZ THO

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EDUCATION

National University of Singapore
Bachelor of Computing in Computer Science   *2023 – Present*

Singapore Polytechnic
Diploma in Computer Engineering; **GPA: 3.97/4.00**   *2018 – 2021*

WORK EXPERIENCE

Chickin, Indonesia
Backend Developer Intern   *May 2024 – Aug 2024*
- Architect and migrated core services from REST to an event-driven architecture using Apache Kafka, for better scalability and real-time processing
- Improve code coverage of existing services through unit and integration testing

Kuhaku LLP
Co-founder   *Dec 2020 – May 2023*
- Scrum master and lead in backend development and embedded integration
- Developed technology for corporations including Facebook (Meta) Singapore and Air Group

GovTech, Sensors and IoT
Embedded Software Intern   *Mar 2020 – Jul 2021*
- Developed bluetooth mesh firmware for in-house RTOS to communicate with mesh sensors and actuators
- Built robust end-to-end over-the-air (OTA) solution for securely updating embedded systems via LP-WAN
- Worked on middleware application of gateway system to control, monitor clusters of smart lampost from the cloud. Deployed and tested system at Gardens by the Bay.
- Prototyped a automated testing rig for functional testing of embedded applications, augmenting existing CI/CD workflow.

AWARDS & ACHIEVEMENTS

Singapore Digital Scholarship (2023): Undergraduate industry scholarship awarded by IMDA

NSF of the Year (2023):
Awarded for outstanding performance and aid in digitalizing analog processes during national service

Singapore Polytechnic Valedictory Speaker: Valedictory speaker for School of EEE 2021

Humanitarian Assistance & Disaster Relief (HADR) Challenge, 1st Runner up:
Trained generative adversarial network (GAN) to augment typhoon satellite imagery aiding humanitarian and relief efforts

Hack.Asia (Security Go) by Daimler, 1st Runner up:
Applied AWS Sumerian, ARCore and JS for an AR edutainment app on the topic of cyber-security

AWS Build On, Singapore (Institute Category), 1st Runner up
Built a interactive VR simulator for PMD riders using AWS Sumerian and WebGL, raising awareness of bad driving habits

Engineering Innovation Challenge (EIC), 1st Runner up
Developed an end-to-end embedded solution to measure radiation on the edge and send telemetry to the cloud

PROJECTS

Flask-desktop (Open Source Contribution) | *flask-desktop*
- A python module that converts Flask apps into cross platform desktop apps, basically providing an easy way to develop a GUI for python apps
- Added customization options (icons, name loading) and support/fixes for neglected features

Mbed Studio Installer (Open Source Contribution) | *mbed-studio-bin*
- An AUR build script that helps to install Mbed Studio, an IDE for Mbed OS application on Arch based distributions

Q-Track
- A React Native project developed for attedance taking via the usage of personalized QR codes
- Utilizes Google Apps Script as a pseudo serverless backend and database to keep with the budget constraints of the organization
- Handled exceptions to enable compilation for both web and android platform using the same codebase
- Supplementary React app was developed to enable quick distribution of the personalized QR codes

Prosperity Toss - Kuhaku | *Front-end Demo*
- An angular app that provides an interactive real-time multiplayer virtual louhei experience
- Worked on the Flask backend that supports the real time interactions via socket.io
- Backend was hosted on AWS Fargate and Redis was used as a shared DB and message queue for scalability considerations

Snaplock - Kuhaku
- A one-stop IoT development platform offers integration and cloud services to a myriad of commercial locks
- Provide solutions to route network traffic from 3rd party locks to secure local servers for security and privacy compliance
- Work on the integration solutions aforementioned via network and firmware analysis, and built them using GoLang

PPTSynchro | *GitHub*
- A Python script to syncrhonize powerpoint presentation on 2 different machines via either blutooth or a shared network (Wifi/LAN) connection
- Control achieved via Win32 APIs bindings and project provides easy methods to change configs and compile as a standalone application

SKILLS

Programming: Python, C++, Javascript, GoLang

Frameworks: Flask, React, React Native, Next.js, TailwindCSS

Technologies: Git, Embedded, Node.js, IoT, Bluetooth Mesh, AWS, Redis, PostgreSQL, Kafka, MongoDB