HYUNBIN BYUN

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SINGAPORE

EDUCATION

National University of Singapore

Masters of Science (M.Sc.)
Computer Engineering
Specialisation: Machine Intelligence & Applications

2023 - Present

Bachelor of Engineering (B.Eng.)
Electrical Engineering
Second Major: Innovation & Design

2019 - 2023

Graduated with Honours (Distinction)

Raffles Institution

2013 - 2018

Graduated with Raffles Diploma

SKILLS

Programming Languages: C, Python, SQL, Javascript, HTML, CSS, MATLAB, Solidity

Machine Learning: Pandas, Scikit Learn, Regression/Classification models, CNN, RNN, LSTM, Deep Learning Toolbox (Matlab)

IT Skills: Adobe Premiere Pro. Autodesk Eagle, Autodesk Fusion360, Figma, FilterPro, LTSpice, Microsoft Office 365, Stella Architect

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LANGUAGES

English: Native

Korean: Native

Mandarin: Conversational

CO-CURRICULAR

NUS Entrepreneurship Society (NES):
Member of Sponsorships Department
2020 - 2022

Raffles Football:
Member of Football Team
2017 - 2018

PROFILE

An enthusiastic and results-oriented Electrical Engineering graduate currently pursuing a Master's in Computer Engineering with a passion for technologies in Machine Learning and IoT. Possesses a keen interest in leveraging computational techniques to enhance real-world applications. Always eager to apply my interdisciplinary background to address real-world problems with a holistic approach to problem-solving.

WORK EXPERIENCE

Research Engineer

Singapore Airlines-NUS Digital Corporate Lab — May 2023 - Present

- Pioneering predictive methodologies to detect passenger discomfort during air travel, employing multi-modal sensor data analysis
- Spearheading the development of advanced AI models aimed at early detection of discomfort onset
- Developing an AI-driven smart seat intervention designed to proactively mitigate sitting discomfort
- Facilitating technical collaboration with external vendors to ensure effective communication and overseeing the development of prototypes aligned with the project requirements

Skills: Machine Learning · Data Analysis · Research and Development (R&D) · Engineering Research · Experimental Research · Product Innovation · Project Management

Internet of Things (IoT) Intern

MANN+HUMMEL Singapore — May 2022 - July 2022

- Worked on the prototyping of MODBUS-TCP (WiFi) Analog sensor using ESP32-S3 module as an alternative to wired-MODBUS (RS-485/RS-232). Hardware / Firmware programming, and front-end programming for data visualization.
- Used C Programming to work on any changes in the API of firmware and software, and to visualize real-time Analog-to-Digital (ADC) readings from sensors and I2C protocol to integrate.
- Tested the range of MODBUS TCP protocol and the performance based on RSSI in various operating conditions.

Skills: Embedded Systems (ESP32), MODBUS/I2C Protocols, C Programming, Data Visualisation, Performance Optimisation

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PROJECT EXPERIENCE

Enterprise Development — Aug 2022 - Dec 2022

- Emerged as second, with a new application and market search for *Endress+Hauser*'s existing technology in the aquaculture industry.
- Employed proactive outreach strategies, amassing a total of 70 interviews with relevant stakeholders in the field (as a group).

Innovation & Design Year-long Project — Jan 2021 - Nov 2021

- Conceptualised and designed a fixed-wing electrical aircraft that targets high portability and beginner-friendliness.
- Designed the propulsion system and electronics. (Custom Printed Circuit Board (PCB), transceiver system using Arduino, INAV for flight stabilizer).

Skills: Circuit design (PCB), Propulsion system design, Soldering, Computer-Aided-Design