NGUYEN VAN BINH

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EDUCATION

National University of Singapore   **Aug 2020 – Present**
Bachelor of Engineering, Computer Engineering, Minors in Management and Data Engineering
- Cumulative Average Point (CAP): 4.86/5.0 – Dean's List
- Expected Graduation Date: May 2024

SKILLS

Programming Languages	Python, C/C++, Java, RISC Assembly
Web Development	Django, Django REST Framework, HTML/CSS/JavaScript
Database/Data Processing	RDBMS, PostgreSQL, Hadoop, Spark
Hardware	FPGA Programming (Verilog, HLS), ARM-based MCU, Raspberry Pi, Arduino
AI/Machine Learning	Scikit-Learn, PyTorch, TensorFlow, Keras, AWS SageMaker
Others	Git, GitHub, Docker, AWS Cloud Services

EXPERIENCE

Machine Learning Engineer Intern, Neuron Mobility   **May 2022 – Aug 2022**
- Trained and deployed machine learning models for scooter parking image classification on AWS SageMaker that achieve > 95% accuracy, detect bad parking behaviors with 0.9–0.98 precision scores and save US$200,000 annually
- Built and dockerized a RESTful backend for an in-house annotation platform using Django REST Framework
- Performed experiments with RK1808 neural processing unit (NPU) for on-chip surface detection task on scooters

Research Assistant, National University of Singapore   **Jan 2022 – Present**
- Analyze the tradeoffs in learning algorithms for spiking fully connected and convolutional neural networks
- Design architecture and write assembly instructions for hardware accelerators for spiking neural networks on FPGA

Teaching Assistant, National University of Singapore   **Aug 2021 – Present**
Teaching Assistant for IT5003 Data Structures and Algorithms for AY21/22 and AY22/23
- Conduct classes of ~20 Master students, review related concepts and techniques, and showcase live coding in Python
- Provide consultations, grade, and give feedback to weekly problem sets
Teaching Assistant for CG2111A Engineering Principles and Practice for AY21/22 Semester 2
- Provided consultations during lab sessions and guidance for the final course project, graded lab reports
- Related topics: bare-metal programming, communication protocols, Lidar, SLAM, power management

PROJECTS

ActiveNUS (activenus.herokuapp.com – pair project – Orbital 2022: Advanced level of achievement): a web application promoting efficient time management techniques and study methods
- Designed and built backend using Django and PostgreSQL, frontend using VueJS and AJAX
- Complied to standard Software Development Life Cycle (planning, designing, developing, testing, and deploying)

RTOS Project (github.com/nvbinh15/cg2271-rtos-project – team of 4): semi-automated car with light and sound functions based on Keil RTX real-time operating system running on KL25Z board, breaks course's running time record
- Designed hardware and software high level architecture; implemented motor movements and communication protocols (WIFI using ESP32 module and UART); developed web controller interface using HTML/CSS/JavaScript
- Managed threads and processes, integrated components (LEDs, motors, buzzers, autorun) to the main module

CLICK (github.com/AY2122S1-CS2113T-T09-4/tp – team of 5): an all-in-one CLI desktop app for managing school modules, tracking food consumption, time scheduling, and journaling built with Java
- Developed managing module function and core components (parser, UI, storage, logger, and exception handler)
- Wrote unit test, set up and performed automated and manual testing and responsible for project management

AWARDS & HACKATHON

- Hack&Roll, Jan 2022 (https://devpost.com/software/disneylang - team of 3): developed and deployed a fun and annoying Discord bot that censors profanity and replies to user's message using Natural Language Toolkit
- Champions, Vietnam National AWS DeepRacer League, Dec 2019: developed reward functions and trained reinforcement learning models loaded to a physical autonomous car that completed a racing lap in 9.625s
- Bronze Medal, European Physics Olympiad, June 2019

EXTRA CURRICULAR ACTIVITIES

President, Phan Debate Club   **Aug 2017 - Aug 2018**
- Led high school debate club of 20+ members, organized events, sharing sessions, trainings, and debate competitions
- Collaborated with debate clubs nationwide and reached 1000+ followers on club's social media platforms