NGUYEN VAN BINH

(+65) 8365 2435 • nguyen.binh@u.nus.edu • linkedin.com/in/nvbinh/ • github.com/nvbinh15 • nvbinh.site

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, Go, 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

Neuron Mobility, Machine Learning Intern **May – Aug 2022**

- Trained ML models, deployed end-to-end ML pipeline for scooter parking image classification on AWS SageMaker, achieving > 95% accuracy and detecting bad parking behaviors with 0.9 – 0.98 precision scores
- Built and dockerized 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

National University of Singapore, Research Assistant **Jan 2022 – now**

- Analyze the tradeoffs in learning algorithms for spiking fully connected and convolutional neural networks
- Design and write assembly instructions for hardware accelerators for spiking neural network on FPGA

National University of Singapore, Teaching Assistant **Aug 2021 – now**

Teaching Assistant for IT5003 Data Structures and Algorithms for AY21/22 and AY22/23

- Conduct classes of ~20 Master students, review related concepts, and showcase live coding in Python
- Provide consultations, grade, and give feedback to weekly assignments

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
- Performed automated and user acceptance testing; complied to different software design patterns and principles

CLICK (github.com/AY2122S1-CS2113T-T09-4/tp – team of 5): an all-in-one desktop app for managing modules, tracking food consumption, time scheduling, and journaling built with Java

- Developed managing module function and core components (parser, storage, logger, and exception handler)
- Write unit test, set up and perform automated and manual testing and responsible for project management

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 OS running on KL25Z board, breaks course's running time record

- Responsible for hardware and software design; 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

AWARDS

- Champions, Vietnam National AWS DeepRacer League, Dec 2019: developed 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

Phan Debate Club, President **Aug 2017 - Aug 2018**

- Managed high school debate club of 20+ members, organized events, sharing sessions and debate competitions
- Collaborated with clubs nationwide and reached 1000+ followers on club's social media platforms