

# 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): 4.85/5.0 – Dean's List
- Expected Graduation Date: May 2024

## SKILLS

<b>Programming Languages</b>	Python, C/C++, Java, Go, RISC Assembly
<b>Web Development</b>	Django, Django REST Framework, SQL, PostgreSQL, AWS Cloud Services
<b>Hardware</b>	FPGA Programming (Verilog), ARM-based MCU, Raspberry Pi, Arduino
<b>AI/Machine Learning</b>	Scikit-Learn, PyTorch, TensorFlow, Keras, AWS SageMaker
<b>Workflow/DevOps</b>	Git, GitHub, Docker

## 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 0.85 – 0.95 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](https://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](https://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](https://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