

# NGUYEN VAN BINH

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## EDUCATION

**National University of Singapore**

**Aug 2020 – Present**

**Bachelor of Engineering, Computer Engineering, Minor in Management**

- Cumulative Average Point (CAP): 4.79/5.0
- Expected Graduation Date: May 2024
- Relevant coursework: Software Engineering, Data Structures & Algorithms, Database Systems, Digital Design, RTOS, Computer Organization, Calculus, Statistic, Linear Algebra, Discrete Structure, Accounting

## SKILLS

<b>Programming Languages</b>	Python, C/C++, Java, Go, Assembly, Solidity
<b>Backend</b>	Django, REST Framework, SQL, PostgreSQL, Heroku
<b>Frontend</b>	HTML/CSS/JavaScript, VueJS
<b>Hardware</b>	FPGA Programming (Verilog), ARM-based MCU, Raspberry Pi, Arduino
<b>AI/Machine Learning</b>	PyTorch, TensorFlow, Keras
<b>Workflow</b>	Git, GitHub, Trello

## EXPERIENCE

**National University of Singapore, Student Researcher**

**Jan 2022 – now**

- Project: “Improving learning algorithms for spiking neural network hardware accelerators”
- Analyze the tradeoffs in learning algorithms for spiking neural networks and contribute to their improvement for hardware implementations

**National University of Singapore, Teaching Assistant**

**Aug 2021 – now**

Teaching Assistant for IT5003 Data Structures and Algorithms for AY21/22 Semester 1 & 2

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

Teaching Assistant for CG2111A Engineering Principles and Practice for AY21/22 Semester 2

- Provide consultations during lab sessions, grade lab reports
- Related topics: bare-metal programming, communication protocols, Lidar, SLAM, power management

**Edison Experimental Physics Laboratory, Research Assistant**

**Aug 2019 - Jun 2020**

- Collaborated with Physics teachers and Engineers to design, develop and test experimental Physics models
- Conducted coaching sessions for students participating in Vietnam National Physics Olympiads

## PROJECTS

- ActiveNUS (Orbital 2021), a web-based application promoting time management techniques and study methods using Django, VueJS and PostgreSQL (<https://activenus.herokuapp.com/>)
- Alex, a tele-operated vehicle with search and rescue functions utilizing RPi, Arduino Uno, ROS, and Lidar
- Click, an all-in-one desktop app for managing modules, tracking food consumption, time scheduling, and journaling (<https://github.com/AY2122S1-CS2113T-T09-4/tp/releases/tag/v2.2>)
- FPGA Project, a sight-and-sound entertainment system implemented with Verilog and Digilent Basys 3 Board
- DisneyLang (Hack&Roll 2022), a Discord bot with NLP-related functionalities built with Natural Language Toolkit (<https://devpost.com/software/disneylang>)

## AWARDS AND SCHOLARSHIP

- Champion, National AWS DeepRacer League, Dec 2019
- Bronze Medal, European Physics Olympiad, June 2019
- Second Prize in Physics, Vietnam National Physics Olympiad, Jan 2019

## EXTRA CURRICULAR ACTIVITIES

**Phan Debate Club, President**

**Aug 2017 - Aug 2018**

- Managed high school debate club with 20+ members, executed recruitment process, and organized debate competitions
- Collaborated with clubs nationwide, executed sharing sessions between organizations, and reached 1000+ followers on social media (Facebook)