Cao Minh Quang | Third-year Student

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Applications for Internship in:

- Hardware Design/Development Engineer
- C/C++ Programming for Hardware
- Embedded System Engineer
- LSI Logic Design
- IoTs and Network Security

Education

Program	Institution/Board	GPA	Year
Bachelor (Computer Engineering - *High quality program)*	Ho Chi Minh City University of Technology ,*Viet Nam National University HCM City*	**9.03/10** (up to now)	2020 - 2024

Knowledge

- Data Structures and Algorithms
- Computer Architecture
- Electrical Electronic Circuits
- Logic Design with Verilog HDL
- Internet of Things Application Development
- Operating Systems
- Computer Networks
- Microprocessors-Microcontrollers
- LSI Logic Design

Technical Skills

- Programming Techniques
- Object - Oriented Programming
- Programming Language: Assembly, C, C++, Python
- Operating System: Windows, Linux(Ubuntu)
- Version Control: Git and GitHub
- Tools: Latex, Microsoft Office, Quartus and Modelsim, PSpice for TI, Altium Designer, Proteus

Course Projects

Smart Air Purifier System for Household Usage **Sep - Dec 2022**
HCMUT

- Description: The air purifier with abilities to detect temperature, humidity, PM2.5 dust and harmful gases concentration supported with a mobile application for supervisor and control.
- Language: Python
- Role: Sensor System Implementation and IoTs Gateway Development
- Field: Multidisciplinary Project - Software Engineering Major
- Github link: Still in progress

Expansion Shield for STM Nucleo **Sep - Dec 2022**
HCMUT

- Description: Reading temperature and humidity using DHT-20 sensor and displaying information by 16x2 LCD using I2C connection.
- Language: C
- Role: Collaborative Developer
- Field: Logic Design Project

- Github link: Still in progress

Traffic Lights with Modes **Sep - Dec 2022**

HCMUT

- Description: Traffic lights system for an intersection with multiples modes using custom mainboard with STM32F103RBT6 MCU.
- Language: C
- Role: Collaborative Developer
- Field: Microprocessors-Microcontrollers Project
- Github link: Still in progress

Simple Traffic Lights with Modes **Oct 2022**

HCMUT

- Description: Traffic lights system for an intersection with 4 modes (automatic, modifying waiting time for red, green and yellow lights) using STM Nucleo with STM32F103C6 MCU.
- Language: C
- Role: Main Developer
- Field: Microprocessors-Microcontrollers Project
- Github link:https://github.com/cmq2002/Simple_Traffic_Lights_with_Modes.git

Statistical Research using R **May 2022**

HCMUT

- Description: Analyses the relationships between various CPU specifications.
- Language: R, Latex
- Role: Theory Researcher, Collaborative Developer
- Field: Probability and Statistic Project
- Github link:https://github.com/cmq2002/R_StatisticalProject.git

Tic-Tac-Toe Game **April 2022**

HCMUT

- Description: 5x5 Tic-tac-toe game with specific rules.
- Language: Assembly
- Role: Main Developer
- Field: Computer Architecture Project
- Github link:https://github.com/cmq2002/TicTacToe_Assembly.git

Design and Layout a circuit with Altium Designer **Dec 2021 - Jan 2022**

HCMUT

- Description: Aiming to design a circuit that is able
  to measure the current of an 220V AC signal,
  to set and address to distinguish with other similar circuits, up to 16,
  to measure the maximum current either up to 5A or up to 10A,
  to send data to a gateway via RS485 or Wifi or Bluetooth,
  to display on 7 segment LEDS using IC 74HC595.

  And do some research on current sensors technology.
- Role: Main Researcher and Designer
- Field: Electrical Electronic Project
- Github link: https://github.com/cmq2002/EEC_Final_Project.git

Finding k^{th} shortest loop-less path **Dec 2021**

HCMUT

- Description: Implementation of Yen's algorithm on searching for k^{th} shortest loop-less path on a given graph.
- Role: Theory Researcher, Main Developer
- Field: Discrete Mathematics Course

- Github link: https://github.com/cmq2002/k-shortest_loopless_path_algorithm.git

Altium Designer Practice **Sep - Nov 2021**

HCMUT

- Description: This is a collection of circuits design with Altium including schematic designs and PCB layouts. It consists of:
  4 digits 7-segment LEDs circuit
  Chipi relay controller circuit
  LED driver circuit
  Power driver circuit with LM 2596
- Role: Main Designer
- Field: Electrical Electronic Circuits Course
- Github link: https://github.com/cmq2002/Altium_Designer_Practice.git

Achievements/Awards

- *Academic Incentive Scholarship* in Semester 1, Academic Year 2020-2021

Others

- Languages:

  Vietnamese - Native speaker
  English - 2^{nd} language (IELTS 7.0 Certification - Achieved in 2019)