



# NGUYEN VIET Y

## Embedded Software Developer

Date of birth: Dec 27, 2000

Gender: Male

Phone: (+84) 976 967 581

Email: nguyenviet2000@gmail.com

Address: 79 Tang Nhon Phu, Phuoc Long B Ward, Thu Duc City,  
Ho Chi Minh City.

## SUMMARY

---

Throughout my academic journey and internship experiences in electronic communications companies, I have delved into and cultivated embedded systems for various applications such as device control, monitoring systems, and the Internet of Things (IoT). Through my work, I have acquired foundational knowledge in C/C++ programming languages, various communication protocols, and other soft skills to address challenges, ensuring the stability and reliability of the products.

## EDUCATION AND TRAINING

---

### HCMC Nong Lam University (2018–2023)

Specialization : Mechatronics Engineering

Degree : Engineer

GPA : 3.02/4.0

B2 : 600

Curriculum :

- C/C++ programming
- Analyze block diagrams and comprehend the principles of basic electrical circuit operation.
- MCU programming: ATmega328P (Arduino Uno R3).

### FPT Telecom – IOT LAB (Internship)

09/2023 – 01/2024

- Learn data structures and algorithms, practiced solving problems on platforms like Codeforces, SPOJ, UVA, Hackerrank.
- Explore and approach architectures designed for embedded systems (Event-Driven, U-boot, Linux kernel).
- Experience with the GNU/Linux Ubuntu operating system and command-line interface.

# SKILLS

---

## Technical Skill

- |                                     |   |
|-------------------------------------|---|
| • <b>Programming Language</b>       | C/C++, Makefile for build automation.                           |
| • <b>Development</b>                | STM32, Arduino, Raspberry Pi.                                   |
| • <b>Protocols &amp; Peripheral</b> | GPIO, UART, SPI, I2C, Interrupt, Timer.                         |
| • <b>Tools</b>                      | STM32 CubeMX, Visual Studio Code, Git, Proteus, Putty, Minicom. |
| • <b>Operating Systems</b>          | Linux OS and command-line interface, Windows.                   |
| • <b>Platform &amp; Framework</b>   | Busybox, Das-Uboot, OpenCV, Keras, Google Colab.                |

## Soft Skills

- Logic analysis for debugging and testing.
- Ability to work independently, research to solve issues during project execution.

## Teamwork Skills

- Ability to work effectively in a team environment.
- Listening and communication and collaboration.
- Sharing knowledge and expertise with team members.

# PROJECTS

---

## FPT Camera Platform

### Description:

Developing video/audio stream features through P2P connection, supporting integration with Web/App devices using WebRTC model.

### Contribution:

#### Firmware development:

- Researching and testing APIs (video and audio streaming) from the Realtek SDK for integration into the system.
- Developing the capability to record H.264 and G.711 ALAW samples to an SD Card, catering to the playback process.
- Developed control features by handling JSON message requests from clients through the data channel, including functionalities for Pan-Tilt, Playlist querying, and downloading records from the SD Card.

#### Tech Stack:

- Programming language: C/C++, Makefile.
- Tool: Git, Wireshark.
- Protocol: Telnet, NFS.

# PROJECTS

---

## Fire Alarm System

### Description:

Retrieve images from the scene, parser to detect fires and send information to users.

### Contribution:

#### Firmware development:

- Researching and testing AT commands for the SIM800a module.
- Researching and exploring the YOLOv6 model.
- Utilized the OpenCV Library to capture images from the camera.
- Training YOLOv6 model to detect smoke and fire for notifying users via messages and emails.

#### Tech Stack:

- Programming language: Python.
- Tool: Google Colab, Putty, Advanced IP Scanner, VNC Viewer.

## Self-Driving Car

### Description:

Designing and developing a self-driving vehicle capable of staying within lanes and recognizing traffic signs.

### Contribution:

#### Firmware development:

- Studying and implementing image processing algorithms to detect road lanes and calculate the curvature of the lane.
- Researching and implementing the PID control algorithm for steering control in a vehicle to keep it within the lane.
- Training a CNN model to detect traffic signs.

#### Tech Stack:

- Programming language: Python.
- Tool: Pycharm, Putty, Advanced IP Scanner, VNC Viewer.
- Framework: OpenCV, Keras, RPi.GPIO

# REFERENCE

---



LinkedIn



Github