# HONG LY TRUNG NHAN

## EMBEDDED SOFTWARE ENGINEER

### **OBJECTIVE**

I am eager to apply the knowledge and experience I gained during my university studies and various projects to deliver substantial benefits to the company. In doing so, I aim to further consolidate my skills and expertise. My goal is to learn efficiently, continually expanding my expertise and enhancing my knowledge.



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#### **EDUCATION**

► HCMC University of Technology and Education

9/2021 - Present

Major: Computer Engineering

GPA: 3.0 / 4.0

## **PROJECTS**

► FIRE DETECTION SYSTEM WITH REAL TIME RESPONSE USING ESP32 CONNECTING TOBLYNK SERVER

(2/2023 - 4/2023)

Roles: Firmware and Hardware Design.

Using Flame Sensor and warn with buzzer when detected fire with FreeRTOS then controlling Servo to open exit door with Blynk applications

Blynk applications.

► DESCRIBE DRIVER INTEGRATED CIRCUIT FOR CONTROL MOTOR USING HDL (VERILOG)

(7/2023 - 8/2023)

Roles: RTL design.

Using Verilog for simulation the driver integrated circut in the FPGA kit, the function of this IC driver is to change the direction or stop the motor when there are logic combinations at the input.

## **SKILLS**

**Programming Languages**: C/C++.

**HDL and Scripting Languages**: Verilog, Python, Matlab, BashShell.

**Microcontrollers**: Experience with 8051, PIC, AVRs 8 bits, STM32F1.

Protocols: Familiar with I2C, SPI, UART.

**RTOS**: Familiar using FreeRTOS for real-time responsive devices.

**Tools**: PCB Design with Altium Designer, FPGA design with Xilinx ISE Design Suite, VLSI design with Cadence Virtuoso.

OS: Linux (Ubuntu, Centos), Makefile.

**Soft skills**: Problem Solving, Adaptability, Critical Thinking, Communication Skills, Time Management.

Language: English, Vietnamese.

► TEMPERATURE MEASUREMENT (10 / 2023 - 11 / 2023)
USING 89C52 MICROCONTROLLER
AND SENDING DATA TO
APPLICATION (WINFORM C#)

Roles: Microcontroller Programing.

Using instruction set with Assembly to communicate with 89c52(UART) and LM35. Sending data to application written in C#.

► TRANMISTTING GRAY IMAGE AND (11 / 2023 - 12 / 2023)
SEND TO MICROCONTROLLERS
TO DISPLAY ON LCD USING IMAGE
PROCESSING.

Roles: Microcontroller Programing.

By using Python and PyQt5, I designed an application to convert a normal image to a LCD array Send that array to 89c52 to display on GLCD128x64.

► VEHICLE DROWSINESS (2 / 2024 - 5/2024)
DETECTION AND ALERT SYSTEM.

Roles: Firmware and Hardware Design

By using Dlib and OpenCV library to embed this model to Raspberry Pi 4B, then send alert data to hardware with USB for control output to warning that the Drivers is drowsiness.