LE LOC QUOC THINH

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SUMMARY

I am a third-year Computer Engineering student deeply passionate about IoT and Embedded system design or verification, seeking an internship in these fields. I take great interest in designing complex IoT and embedded systems using dedicated embedded or IoT devices, optimizing resources to enhance speed, efficiency, energy savings, and cost reduction. Additionally, I have experience in designing FPGA using Vivado and testing on board such as Arty-Z7. I am also capable of designing basic PCB boards when specific market options are unavailable.

PROJECTS (*)

Implemented an O(1) complexity real-time task scheduler on STM32 **November 2024**

- I developed it following interrupt processing mechanism, which just permit interrupt function have O(1) complexity i.e requiring entry interrupt function and return immediately to prevent real-time error. I use double-linked list data structure to create APIs like add, delete and dispatch task.
- I successfully demonstrated it on the STM32 nucleo board and received a maximum score (10/10) of Microcontroller subject LAB from my lecturer.

Design Smart Traffic Light system using STM32 and ESP32. **December 2024**

- Utilizing ESP32 to develop a web-based user interface and relay user commands to STM32.
- Employing STM32 to manage LED traffic based on user choice and display the output on an LCD.
- Implementing UART as the communication protocol for data transmission between ESP32 and STM32. Additionally, i also demonstrated it to my lecturer and got full 2/2 bonus for my final exam.

Design a Printed Circuit Board (PCB) for STM32. **November-December 2023**

- A general-purpose testing board utilizing multiple individual components.
- Includes an STM32F103RCT6 microcontroller and SWD for program loading.
- Additionally, features 6 buttons isolated by optocouplers, 3 seven-segment LEDs for countdown display, and 15 LEDs to simulate a crossroad traffic light system.

Implement *k*NN algorithm to predict a digit. **February 2024**

- Implementing kD-tree to enhance the performance of the kNN algorithm above 80% accuracy.
- Training the AI model using the MNIST dataset, which consists of images of hand-written digits (0 to 9), each sized 28x28 pixels.
- Then, applying the kNN algorithm to predict the input data.

EDUCATION & CERTIFICATES (*)

Third-year student at HCMUT-VNU. **Present (2025)**

Ho Chi Minh University of Technology - VietNam National University (BACH KHOA UNIVERSITY).

- Major in Computer Engineering.
- GPA 3.0/4.0 .

TOEIC LISTENING & READING. **JAN 2025 - Present**

LISTENING & READING SKILL.

- 815/990 SCORE.

ADDITIONAL INFORMATION

- **Technical Skills:** Vivado - Xilinx, Scilab, Altium, Pspice, STM32CubeIDE, Proteus, Arduino IDE, VScode etc.
- **Soft Skills:** Teamwork, presentation, problem-solving, time management, self-learn and more.
- **Programming Languages:** Python, Java, C/C++, micropython for arduino.
- **Languages:** English, Vietnamese.
- **Hobbies:** Swimming, reading about semiconductor design, exploring open-source hardware projects, and staying updated on tech news, attend technical seminars,...
- **Volunteering:** Volunteer Runner - uprace 2023, Volunteer Member - Spring volunteering 2024, Blood Donor - Blood Donation.

(*): you can click to name of subjects with underline to examine it.