



Huan Nguyen-Duy

BE - Computer Engineering

Engineer in Automotive industry

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EDUCATION

Degree/Certificate	Institute/Board	GPA	Year	Reference No
SPK.BE. Computer Engineering	Ho Chi Minh City University of Technology and Education	3.22	2023	2427FD23

EXPERIENCE

• Ban Vien Corporation

June 2022 - Aug 2022

Intern

Ban Vien Tower, 54-56-58 Street 2, Van Phuc Residences, Thu Duc district, HCM

– Project vending machine

**Programming: C, Cpp

[1] Supporting application programming interface of RFID module for STM32F1 chip.

[2] Supporting application programming interface of UART which is connected STM32F1 by QT framework.

• Ban Vien Corporation

Aug 2022 - Apr 2023

Part-time Embedded Engineer

Ban Vien Tower, 54-56-58 Street 2, Van Phuc Residences, Thu Duc district, HCM

– Training SOC project

**Programming: C, Cpp

[1] Builder tools: Makefile, poky package (Yocto project)

[2] learning embedded Linux that include Linux kernel, Yocto project, Linux application.

[3] Building custom image for Raspberry Pi 3 board.

[4] Expanding GPIO application with PCF8574 module by using device driver.

– Advanced Driver Assistance Systems hackathon project

**Programming: Cpp

[1] Integrating peripheral components into Jetson Nano by using device driver.

[2] Integrating module CAN mcp2510 into Jetson nano by using device driver.

[3] Integrating module Raspberry camera (imx219) into Jetson nano by using device driver.

[4] Responsibility for design role to develop CAN service, this was combine between CAN interface and DBUS service, which were supported by Linux kernel.

• Ban Vien Corporation

May 2023 - Present

Embedded Engineer

Ban Vien Tower, 54-56-58 Street 2, Van Phuc Residences, Thu Duc district, HCM

– Model base design | QEMU development project

***Customer: Renesas Design Vietnam Co., Ltd., Ho Chi Minh City.

**Brief project: QEMU development project aims the emulation for RCAR chip (development by Renesas Design Vietnam), it creates the emulation fastest platform to reduce the cost and time consumption of the development process. QEMU project was developed by C/Cpp programming and several opensource libraries to emulate RCAR chip series, we implemented all modules in SOC chip (RCAR series) base on hardware specifications which were provided by IC design teams. The outputs of QEMU project were RCAR chip platform software series that had operations similar to real RCAR chip series (developed by IC design teams). These outputs can called Virtual-Platform.

**Fundamental knowledges: modeling techniques, C/Cpp programming, Makefile.

[1] Model RS-CANFD : Investigating hardware specification of RS-CANFD model, preparing environment and Integrating the design of this model to virtual platform. After that, planning to create test cases to verify all operations.

– Model base design | RCAR development project

***Customer: Renesas Design Vietnam Co., Ltd., Ho Chi Minh City.

**Brief project: RCAR development project aims the simulation for RCAR chip (development by Renesas Design Vietnam), it uses mainly systemC framework to simulate accurate operations of RCAR chip base on hardware specifications which were provided by IC design teams. RCAR project objective provide for customer the virtual platform of SOC chip with high accurate.

**Fundamental knowledges: modeling techniques, systemC framework, C/Cpp programming, Makefile.

[1] VSP2 model (Video Signal Processor) : Investigating hardware specification provided by IC design teams and updating some registers which were changed compare with last specification version.

[2] SHIP-M-AES submodel (Security Advanced Encryption Standard): Investigating hardware specification provided by IC design teams, Responsibility for design dummies, preparing environment to verify AES module. Creating test cases to verify full operation of AES submodel.

[3] CRAC-SM4B submodel (Security Advanced Encryption Standard of china): Investigating hardware specification provided by IC design teams, Responsibility for design dummies, preparing environment to verify SM4 submodel. Creating test cases to verify full operation of SM4 submodel.

- [4] CRAC-KEYRAM submodel (Memory component): Investigating hardware specification provided by IC design teams, Planning to design KEYRAM model adapt to new version of hardware specification, which include architecture design, unit design, and coding design.
- Model base design | QEMU integration project
 - ***Customer: Renesas Design Vietnam Co., Ltd., Ho Chi Minh City.
 - **Brief project: QEMU integration project objective integrates all models of QEMU development project and RCAR development project, this project creates both emulation and simulation for SOC platform. The goal of project is integration all components from RCAR development team and QEMU development team and verifying operations of system by integration test.
 - **Fundamental knowledges: modeling techniques, systemC framework, C/Cpp programing, Makefile, CMakeList.
- [1] Integrating WCRC model: Preparing environment to integrate WCRC model (recived from RCAR development team), Investigating hardware specification, creating test patterns to verity the SOC system.

PERSONAL PROJECTS

- **VLSI design by Cadence Virtuoso** *Jan. 2022 - Aug. 2022*
Ho Chi Minh City University of Technology and Education Github | Youtube
 - Grade: 10/10.
 - Fundamental knowledges: VLSI design, digital electronic design.
 - Description project:
 - [1] VLSI design for fundamental gates: design VLSI level for Not, AND, NAND, OR, NOR, XOR, and NXOR gates.
 - [2] VLSI design for flip flop: design VLSI level for types of flip flop, analysing timing, delay, voltage gain, and power.
 - [3] VLSI design for fundamental electronic cricuts: design VLSI level for counter, types of shift registers, and adder cricuts. Analysing timming, delay, voltage gain, and power.
- **Library manager application** *Sep. 2021 - Dec. 2021*
Ho Chi Minh City University of Technology and Education Github | Youtube
 - Subject project | Grade: 9/10.
 - Programming: Cpp.
 - Frameworks: QT framework.
 - Description project:
 - [1] learning C++ programing and Object-oriented programming.
 - [2] learning QT framework.
 - [2] Planning to design library manager by QT framework.
- **Development Bluetooth low energy (Beacon device)** *Jan. 2022 - May. 2022*
Ho Chi Minh City University of Technology and Education Github | Youtube
 - Senior project 1 | Grade: 10/10
 - Programming: C, Cpp.
 - hardware: ESP32, NRF51822 SOC chip.
 - Fundamental knowledges: Bluetooth low energy, microcontroller programming.
 - Description project:
 - [1] Investigating about Bluetooth low energy and choosing suitable hardware for this application.
 - [2] Developing BLE application for NRF51822 SOC chip by NRF SDK.
 - [3] Developing BLE scanner for ESP32 using arduino framework.
- **Monitor agriculture by Lora application** *Aug. 2022 - Dec. 2022*
Club Name/Professor Name Reports
 - Work Done 1
 - Work Done 2

SKILLS

- **Programming:** Python, C/C++, Java*
- **Category XYZ:** Skill A, Skill B, Skill C
- **Operating Systems:** Windows, Linux*
- **Non Technical:** Product Management, Financial Analysis, Consulting * Elementary proficiency

KEY COURSES TAKEN

- **Mathematics:** Linear Algebra, Basic Calculus, Discrete Maths, Probability & Random Processes
- **Product Management:** Product Matters 3.0
- **Course Category XYZ:** Course Name 1, Course Name 2, Course Name 3, Course Name 4

POSITIONS OF RESPONSIBILITY

- **Associate Manager**, XYZ Club, IIT Guwahati *Apr. 2018 - Apr. 2019*
 - Conducted so and so event for this many audience

ACHIEVEMENTS

- **Bronze Medal**, XYZ Challenge, ABC Company, FGH City *2018*
- **JEE Advanced 2021**, Secured **AIR XYZ** among 0.15 million candidates appearing for the test *2021*
- **JEE Mains 2021**, Secured **AIR XYZ** among 2.2 million candidates appearing for the test *2021*

EXTRACURRICULARS

- **XYZ position**, ABC Society
- **Student Volunteer**, ABC Activity