## TRUONG QUANG BAO KHANH

#### **EMBEDDED SOFTWARE ENGINEER**

## Career goals

Fullstack software embedded system, proficient in C/C++ programming for MCU, ECU.

## **Project**

# Trainee | Hitachi Digital Services VietNam 26/02/2024 - 25/05/2024

Task: FSP Training with Renesas RA6M3 MCU Group.

- Read HW User reference manual, datasheet.
- Create/import and configure a project using GPIO, UART, PWM, ADC, SPI, USB.
- Understanding how FSP works, HAL.
- Develop **SPI**, **DMA**, **I/O Port**, **ICU** driver for RA6M3.
- Understanding Unit Test, Gtest Framework.
- C/C++, **Device Driver**, FSP, RA6M3, Gitlab, Jira.

## Leader | PID INCUBATION SYSTEM - STM32(UTH)

15/05/2023 - 30/06/2023

**Task:** Program the whole system, design 2-layer PCB circuit. **SPI** communication with **MAX31865** and **PT100** sensors to read ambient temperature, using 0 point detection circuit, Triac excitation circuit incorporates **PID** algorithm for temperature control, monitoring and installation by LCD. Using **STM32F103** microcontrollers.

# Leader | GREENHOUSE PLANT IOT SYSTEM - ESP32(UTH) 01/2022 - 07/2022

**Task:** Programming the whole system, designing electronic circuits. Program the **MQTT protocol** to transmit and receive data using WiFi, using MQTT Broker Mosquitto. **Programming PID** controllers to control the temperature in the greenhouse, programming **PWM** to control soil moisture. Monitoring and control via **node-red** dashboard.

# Leader | ROBOT SUMO - ARDUINO(IUH)

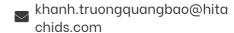
01/2023 - 18/03/2023

**Task:** Brushed motor control programming, mechanical design and electronic circuitry.

Design and program SUMO robot algorithm, communication and voltage stabilizer for **5 Laser sensors**, mechanical design and electronic circuit design for Robot weighs only about 1.4kg but can push weight up to 40Kg.

#### Contact

**4** 09/11/2002



• 363/29/12/35 Binh Tri Dong, P.BTDA, Binh Tan District.

**\** 0774681876

#### Skill

- **1.** A software developer with nearly 1 year in Embedded System.
- **2.** Experienced with MCU (STM32, AVR, ESP, PIC). Be knowledgeable about **ARM Cortex** architecture.
- **3. Driver programming** for STM32, RA6M3 peripherals such as GPIO, SPI, DMA etc. Understanding **Git Bash, Gitlab**.
- **4.** Understanding of communication standards such as UART, I2C, SPI, MQTT, Bluetooth.
- **5.** Have basic knowledge in analyzing requirement, software design, coding, debugging. Able to learn and apply new technologies quickly, with high team-work spirit.

#### Certificate

Basic informatics certificate (28/09/2022)

Basic knowledge of Word, Excel, Powerpoint.

#### Language

English TOEIC 770

#### **Education**

Industrial Automation 2020 - 2024

Ho Chi Minh City University of Transport

GPA: 3.22

## Honours & Awards.

# 5th Robot Arena Competition (18/03/2023) FIRST PRIZE

The Ho Chi Minh People's Delegation of Ho Chi Minh City University of Industry in cooperation with the Faculty of Electronics Technology organized.

# 1st Science - Innovation - Technology Competition (29/8/2023)

#### **FIRST PRIZE**

Faculty of Information Technology, Ho Chi Minh City University of Transport HCM organizes.

# Sumo Robot Auto Robo Design Competition 2023 (18/3/2023) CONSOLATION PRIZE

Organized by Ho Chi Minh City Student Cultural House.

#### References

#### **Hoang Đuc Quy**

Master

**Q** 0763533135