




## PHẠM NGỌC TOÀN


Engineering

 Oct 16, 1993

 Male

 0933441193

 toanphambk@gmail.com

 Hanoi, Vietnam

 <https://bit.ly/40rjIzP>

## SKILLS

C

TypeScript

Altium

NodeJs

VueJs

STM32

Esp

PLC

## INTERESTS

- controlling Systems
- embeddedsystems
- IOT Systems
- Trending technology like AI, machine learning, computer vision



## WORK EXPERIENCE

### VINFAST

JUNE-2023 - NOW

Vehicle development program PMO

#### Main responsibilities:

- \_ Enhanced project management skills specific to vehicle development programs.
- \_ Strengthened expertise in overseeing and managing the electrical system and software function implementation.
- \_ Improved coordination and collaboration abilities with cross-functional teams to ensure timely milestone delivery.
- \_ Developed proficiency in part preparation and conducting risk assessments within the automotive industry context.

### HAMADEN-DENSO

MAR-2023 - MAY-2023

Project supervisor

#### Main responsibilities:

- \_ Led IIoT projects as a Project Supervisor at Hamaden Denso factory.
- \_ Develop an in-house developer team for IIoT application creation.
- \_ Collaborated with external suppliers to ensure seamless project integration.
- \_ Implemented agile practices and promoted team development.

#### Achievements and skills gained:

##### \_ Production line monitoring system (Prototype)

- + Successfully designed and implemented a prototype production line monitoring system using Next.js (Postgres - TypeOrm), Nestjs (Redux toolkit-CSR) tech stack.
- + Get data from production line Keygen PLC -(rs485)-> Pi3+ -(HTTP-)>Server
- + Designed and implemented a production line monitoring system for improved efficiency.

### HEXAGON-MI

OCT-2021 - JAN-2023

Lead Automation Engineer

#### Main Responsibilities:

- \_ Project Manager: Oversaw design, deployment, and successful completion of projects.
- \_ System Design & Electrical Design: Developed efficient system and electrical designs.
- \_ Programming: Implemented automation and control software solutions.
- \_ Collaboration with overseas engineers: Led cross-border engineering collaboration.
- \_ Supplier Relations: Managed project procurement process.

#### Achievements and Skills Gained:

##### \_ Vinfast Exterior Inspection System

- + Designed electrical circuits with AutoCAD.
- + Programmed PLCs and HMIs (Siemens & Weintek).
- + Developed data transfer service using Nestjs.
- + Programmed Kuka robot (KRL) & provided training.
- + Contributed to mechanical design. Worked with diverse technologies: laser tracker, optical & 3D camera inspection.

### WORKING AS A FREELANCER

JAN 2021 - OCT-2021

Solution provider

#### Main Responsibilities:

- \_ Design web app to monitor environment status.
- \_ Design hardware (PCB) to gather data from the environment.
- \_ Writing firmware for modules (Arduino, raspberry pi, esp32, esp8266 )
- \_ Using camera (OpenCV, python) to process vision data.

### **Achievements and Skills Gained:**

#### **\_ Cell Multiplying Lab Environment Monitor:**

- + Designed PCB to measure CO2 levels and transmit data to the server over WiFi (esp8266, Altium).
- + Developed firmware for CO2 board using esp8266 Arduino library.
- + Utilized Opencv and Tesseract with a camera to extract and store control display data in MongoDB.
- + Created a web app dashboard (nodejs, ejs, MongoDB) hosted on a Raspberry Pi 3b+.
- + Monitored emergency CO2 supply and power status on Raspberry Pi.
- + Implemented a sim 800L module to send emergency SMS and phone calls.

#### **\_ Prototyping Fault Checking System Using OpenCV:**

- + Scanned product barcodes to determine the paint location within the product.
- + Checked the paint's position and assessed whether it is classified as Good or No Good.

#### **\_ Web base remote control HMI**

- + Writing a web base HMI using Siemens S7-1200 web system for a weight measuring system

#### **\_ Robot Transfer System for Press Machine Production Line:**

- + Designed control system drawings for a system comprising 5 robots, 4 press machines, a feeder system, and a safety system (light curtain).
- + Programing the ladder program and HMI for the system

#### **\_ Robot transfer system for Welding robot Station**

- + Designed control system drawings for the robot transfer system.
- + Programmed the ladder logic and HMI to ensure smooth operation and efficient control of the system.

#### **\_ Prototype (Proof of Concept) of Remote Control System:**

- + Nestjs Backend
- + Esp32 Hardware (Freertos)
- + Vue 2 Frontend

#### **\_ Robot Welding Station Design**

- + Design electrical system for robot welding cell
- + Programming PLC and HMI.

### **WELDCOM INDUSTRIAL JSC**

**FEB 2017 - JAN 2021**

#### **BRUCO SMART FACTORY SOLUTION**

**APR 2019 - JAN 2021**

RnD

#### ***Main Responsibilities:***

- \_ Developed a web-based MES system for factory status monitoring.
- \_ Gathered data and signals from machines, designing solutions to transfer and store data in the database.
- \_ Created APIs for server communication with machines, facilitating data retrieval.
- \_ Implemented multiple drivers for seamless machine-to-PC communication.
- \_ Collaborated with a 3rd-party software company to build MES software, understanding the production process for effective integration.

#### **Achievements and Skills Gained:**

- \_ Transitioned from JS to TS and worked with Vuejs.
- \_ Designed APIs for data interaction with modules and devices, and developed dashboards.
- \_ Proficient in IIoT communication protocols: MQTT, HTTP, WebSocket, UDP.
- \_ Developed dashboards for data visualization and front-end applications.
- \_ Developed drivers for PLC communication via Hostlink (Keyence) and mcProtocol (Mitsubishi).

## BRUCO SMART FACTORY SOLUTION

FEB 2018 - APR 2019

Automation department

### **Main Responsibilities:**

- \_ Collaborated with the team leader in designing, assembling, and installing the company's manufacturing machines.
- \_ Designed a SCADA IIoT system to connect and monitor machines for the structural steel industry's factory.

### **Achievements and Skills Gained:**

- \_ Acquired knowledge about industrial SCADA networks and monitoring systems.
- \_ Familiarity with MVC web architecture.
- \_ Proficient in programming languages: HTML, CSS, JavaScript.
- \_ Designed a web-based monitoring system using NodeJS, Express, EJS, and MongoDB.
- \_ Prototyped several SCADA systems.

## WELDCOM INDUSTRIAL

FEB 2017 - FEB 2018

CNC cutting department

### **Main Responsibilities:**

- \_ Specialized in using light, particularly laser, for metal cutting purposes.
- \_ Provided customer support and training on machine operations
- \_ Installed and set up machines at customer's factories.
- \_ Proficient in fixing, debugging, and maintaining the machines.

### **Achievements and Skills Gained:**

- \_ Expertise in laser cutting technology.
- \_ Knowledge of the machines installation process and their life cycle.
- \_ Familiarity with the structural steel industry and metal sheet steel industry.

## MAIN RESPONSIBILITIES:

DEC 2015 - FEB 2017

Engineering and Utility

### **Main Responsibilities:**

- \_ Resolving errors in the production line and factory machines.
- \_ Implementing maintenance plans to prevent issues.
- \_ Upgrading existing machines and developing new solutions for enhanced manufacturing efficiency and stability.
- \_ Supervising and training a team of 5 workers for factory duties.
- \_ Adapting PLC programs to suit current product requirements.

### **Achievements and skills gained:**

- \_ Proficient in PLC programming and HMI design, with expertise in Mitsubishi equipment.
- \_ Experienced in control panel and automation system design.
- \_ Worked with other PLC brands like Omron, Keyence, and Delta.
- \_ Familiarity with AutoCAD and Altium for control panel designing.
- \_ Well-versed in error handling situations and the factory maintenance process.



## EDUCATION

### HANOI UNIVERSITY OF SCIENCE & TECHNOLOGY

OCT 2013 - MAY 2015

Major: Automation and controlling engineering technology

### MILITARY TECHNOLOGY ACADEMY

OCT 2017 - MAY 2019

Major: Automation and controlling engineering technology



## CERTIFICATIONS

TOEIC Certificate with score 585 By Hanoi University of science and technology

2013

