Vo Ta Dung

Electronics &
Telecommunications Engineer

CONTACT

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SKILL

Microcontrollers: ESP32, ESP8266, STM32, Arduino, LGT8F328P, Nios II, FPGA, Raspberry Pi ..
Programming: C/C++, Python, MATLAB, Assembly, RTOS, Java, JavaScipt, Kotlin,...
Software & Tools: Cisco Packet, STM32CubeIDE, Quartus, Oscilloscope, Proteus, VS Code, MATLAB, Xschem, Arduino IDE, Android Studio, Microsoft Office..
English: Technical datasheet reading and basic communication.

EXPERIENCE

Telecommunications Engineer| 8/2026 - now

Vector Infotech Viet Nam

- Integrated multi-discipline systems (Telecom, Fire & Gas Detection, CCTV, PA/GA, Fiber Optic) into unified architectures for offshore oil & gas platforms and onshore industrial facilities across multiple concurrent projects
- Led end-to-end system integration activities including design review, hardware/software configuration, inter-system interfacing, Factory Acceptance Testing (FAT), Site Acceptance Testing (SAT), and commissioning
- Configured and integrated telecom systems including DMR digital radio networks, OTN fiber-optic rings, PABX/IP telephony, VHF/UHF repeaters, and VSAT systems to meet client technical specifications
- Reviewed and approved vendor documentation including datasheets, vendor prints, bills of materials (BOMs), and configuration & license packages to ensure compliance with project engineering requirements
- Supported post-commissioning preventive maintenance (PM) and hands-on troubleshooting of integrated systems, minimizing downtime and ensuring continuous operation of safety-critical offshore assets

Part-time Hardware Staff| 10/2025 - 7/2026

American Study Education Joint Stock Company

- Participated in the research and development of IoT and embedded systems projects, combining hardware, firmware programming, and 3D mechanical design.
- Designed, assembled, tested, and debugged electronic circuits and hardware models, including power supply, sensor, and control circuits.
- Participated in the development, assembly, testing, and troubleshooting of electronic and embedded systems.
- Supported students in learning Programming, Electronics, and IoT fundamentals.

Hardware Intern | 7/2025 - 9/2025

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EDUCATION

University of Science, VNU-HCM | 2022-2026

- Faculty: Electronics & Telecommunications
- Major: Computer Engineering – Embedded Systems

CERTIFICATES & ACHIEVEMENTS

Certificate of Merit – Students' Union: Outstanding contribution to Youth and Students' Union activities, 2023–2024.

Gemini Certified Educator

Certificate of Merit – Students' Union: Outstanding achievements in the 16th Spring Volunteer Campaign.

Cisco Introduction to IoT

PROJECTS

RODA – Road Monitoring System **12/2025-7/2026**

- Designed and developed an end-to-end IoT-GIS road monitoring system integrating mobile and fixed ESP32 nodes for detecting road incidents including potholes and flooding, with real-time visualization on Web and Android applications.
- Developed firmware for the mobile IoT node using MPU6050, GPS, and MicroSD, implementing pothole detection and a Store-and-Forward mechanism to record geotagged incidents offline and synchronize them to the cloud when connectivity was restored. Field tests achieved 0% data loss across tested offline scenarios.
- Developed the fixed flood-monitoring node with JSN-SR04T and ESP32, implementing edge-based water-level calculation, HTTPS/REST data transmission, and a 15-minute Deep Sleep cycle to reduce power consumption.
- Built the cloud, GIS, and AI pipeline using Supabase, Leaflet, and YOLOv8, including REST APIs, spatial incident visualization, and automated image-based incident verification through a Python AI service deployed on Hugging Face.
- Developed the Web Admin Dashboard and native Android application, integrating road-incident reporting, map visualization, routing, cloud data access, and AI-assisted report verification.

Tech: *C/C++, ESP32, MPU6050, JSN-SR04T, GPS (NEO-6M), MicroSD, I²C, UART, SPI, Wi-Fi, REST API, JSON, Supabase, PostgreSQL, Python, YOLOv8, Hugging Face, Leaflet, OpenStreetMap, Android, Vercel*

GitHub: *https://github.com/henryvo2k4/RODA.git*

RF Robotic Arm Control System **04/2026 - 07/2026**

- Developed embedded firmware for a custom RF handheld controller and robotic arm, enabling wireless control of 3 stepper motors and 1 servo motor.
- Designed and programmed the joystick-based transmitter using Arduino and nRF24L01, including 4-channel analog input processing and wireless data transmission.
- Implemented receiver firmware on Arduino Mega to parse RF commands and control 3 stepper motors through A4988 drivers using STEP/DIR signals.
- Implemented joystick dead-zone handling, motor direction control, step pulse generation, and gradual servo positioning with configurable angle limits.
- Integrated and tested the embedded control system, including Arduino Mega, nRF24L01, A4988 drivers, stepper motors, servo motor, and supporting circuitry.

Tech: *C/C++, Arduino IDE, Arduino Mega, nRF24L01, SPI, A4988, Stepper Motor, Servo Motor, EEPROM*

GitHub: *https://github.com/henryvo2k4/RF-Motor-Control-System.git*

Breezi Air Purifier **03/2026 - 05/2026**

- Developed embedded firmware for an ESP32-based air purifier system, integrating multiple environmental and air-quality sensors for real-time monitoring.
- Implemented sensor acquisition and data processing for PM2.5/PM10, CO_2, O_3, CO, NO_2, NH_3, VOCs, temperature, and humidity, and calculated AQI to determine the dominant pollutant and air-quality status.
- Designed and implemented the TFT display interface using LVGL, including real-time AQI visualization, pollutant status, temperature/humidity data, and dynamic UI updates based on air-quality levels.
- Developed an on-device Wi-Fi Web Server and REST-like JSON API for real-time sensor monitoring and device control, with a responsive dashboard for AQI, sensor data, analytics, and purifier operating modes.
- Implemented control logic based on processed air-quality data to determine purifier operation, while integrating the firmware with the air-purification hardware developed by the teammate

Tech: *C/C++, Arduino IDE, ESP32, LVGL, ILI9341 TFT, PMS, SHT31, MQ135, MQ131, VOC Sensor, I²C, UART, SPI, Wi-Fi, HTTP, JSON, WebServer, EEPROM*

GitHub: *https://github.com/henryvo2k4/Breezi-Air-Purifier.git*

MotionTrack FPV Rover **07/2025 - 10/2025**

- Developed an ESP32-based Bluetooth Low Energy (BLE) robot car with wireless control through a custom Android application.
- Designed and programmed the ESP32 firmware to receive movement commands and control the robot's motor system, supporting forward, backward, left, right, diagonal movement, and turning.
- Developed the Android control application and implemented BLE communication for sending real-time movement and speed commands to the ESP32.
- Implemented PWM-based motor speed control and command processing on the ESP32, including automatic motor stop when the BLE connection is lost.
- Integrated and tested the Android application, BLE communication, ESP32 firmware, and motor-control hardware as a complete wireless robotic system.

Tech: *C/C++, Arduino IDE, ESP32, Bluetooth Low Energy (BLE), Android, PWM, Motor Control*

GitHub: *https://github.com/henryvo2k4/MotionTrack-FPV-Rover.git*