VISHAL DIGRAJ

+91 7899553108 | vishaldigraj@gmail.com | linkedin.com/in/vishal-digraj | Bengaluru, Karnataka

CAREER OBJECTIVE

Entry-level Electronics and Communication Engineering graduate with hands-on experience in Embedded C, C/C++, microcontrollers, and embedded system development. Skilled in PIC18F4580, GPIO, ADC, PWM, timers, interrupts, keypad/display interfacing, and Linux, with practical experience developing and debugging embedded applications. Completed projects and internship work involving Address Book, Steganography, Car Black Box, and IoT-based systems, with a strong interest in Embedded Systems, Hardware Testing, and Firmware Development. Seeking an entry-level opportunity to apply technical skills, contribute to real-world product development, and continuously strengthen expertise in embedded and electronics engineering.

TECHNICAL SKILLS

Programming: Embedded C, C, C++

Microcontrollers: PIC18F4580

Embedded Concepts: GPIO, ADC, PWM, Timers, Interrupts, Keypad Interfacing, 7-Segment Display, LED Interfacing, Serial Communication

Operating Systems: Linux, Ubuntu

Development Tools: MPLAB X IDE, XC8 Compiler, VS Code

Core Concepts: Digital Electronics, Microcontroller Architecture, Embedded Systems, Basic Data Structures

PROFESSIONAL TRAINING

Emertxe Information Technologies
Embedded Systems Training | 2026

- Developed embedded applications using Embedded C and C++ with practical microcontroller programming and debugging.
- Gained hands-on experience with PIC18F4580, GPIO, timers, ADC, PWM, interrupts, keypad, LED, and 7-segment display interfacing.
- Worked on embedded projects including Addr**ess** Book, Steganography, and Car Black Box, focusing on modular programming, debugging, and system-level implementation.
- Developed and tested embedded firmware using MPLAB X IDE and XC8 compiler, with exposure to Linux-based development environments and debugging practices.

PROJECTS

IoT-Based Water Quality Monitoring Using ESP32 *Sep2025 - Jan 2026*
Tools: ESP32, Sensors, Embedded C
- Developed an IoT-based water quality monitoring system using ESP32 to measure pH, temperature, and turbidity in real time.
- Implemented sensor interfacing and data processing for continuous monitoring of key water quality parameters.
- Designed the system to enable timely detection of potential water contamination through real-time monitoring.

Heart Rate Monitoring Using Arduino *Dec2024 - Feb 2025*
Tools: Arduino, Pulse Sensor, LCD
- Developed a heart rate monitoring system using Arduino and a pulse sensor to measure and display heart rate in real time.
- Implemented LCD interfacing to display live heart rate readings.
- Applied signal processing techniques to provide stable and reliable sensor output.

Address Book Management System *Apr 2026*
Tools: C, GCC, Linux
- Developed a console-based contact management application supporting add, search, edit, delete, and display operations.
- Implemented file handling, structures, pointers, and input validation for efficient contact management.
- Applied modular programming and debugging techniques to improve application reliability.

Steganography *May 2026*

Tools: C, GCC, Linux

- Developed an image steganography application to encode and decode secret text within BMP image files using the LSB technique.
- Implemented file handling, bitwise operations, pointers, and command-line arguments for encoding and decoding.
- Preserved image quality while securely hiding and extracting text data.

MP3 Tag Reader *June 2026*

Tools: Embedded C, GCC, Linux

- Developed an MP3 Tag Reader to read and display metadata such as song title, artist, album, and genre from MP3 files.
- Implemented ID3 tag parsing and file handling to extract and process audio metadata.
- Applied modular programming and debugging techniques to ensure reliable metadata extraction.

EDUCATION

B.E. – Electronics & Communication Engineering *2022 - 2026*

Maratha Mandal Engineering College, Belagavi | CGPA: 6.5 / 10

Pre – University 12th (PCMB) *2020 – 2022*

J A Composite PU College, Athani | 55%

SSLC (10th Standard) *2019 – 2020*

Govt High School, Siddewadi | 75%

CERTIFICATIONS

- Completed an internship at Emertxe Information Technologies.
- Published a research paper based on final-year project in the Advanced International Journal for Research (AIJFR), demonstrating research, technical writing, and problem-solving skills.

DECLARATION

I hereby declare that the above information is true and correct to the best of my knowledge and belief.

Place: Bengaluru Vishal Digraj