

DHARMENDRA VAISHNAV

EMBEDDED ENGINEER

Udaipur, Rajasthan

dhtechee@gmail.com | +91 9636737443

SUMMARY

Embedded Software Engineer with experience in STM32 and PIC microcontrollers, specializing in firmware development, communication protocols, and hardware-software integration. Skilled in UART, USB, ADC, DMA, and 4G modem interfacing. Proven ability to design reliable embedded systems, optimize performance, and debug complex real-time issues in industrial and IoT applications.

TECHNICAL SKILLS

- Programming: Embedded C
- Microcontrollers: STM32, PIC18 Series
- Interfaces/Protocols/Peripherals: UART, USB (HID/CDC), Bluetooth, ADC, DMA, GPIO, AT Commands
- Tools: MPLAB X, XC8, STM32CubeIDE
- Debugging: Logic Analyzer, Oscilloscope, Multimeter

PROFESSIONAL EXPERIENCE

Embedded Engineer

Lipi Data System Ltd, Udaipur

Jun 2024 – Present

- Worked on STM32H7 dual-core architecture (Cortex-M7 & Cortex-M4), optimizing task distribution for communication and real-time processing.
- Developed STM32-based communication stack for 4G modem using UART, enabling HTTP & MQTT communication for remote connectivity.
- Integrated USB HID, I2C, and DMA to optimize data transfer and system efficiency.
- Implemented USB Host CDC communication to interface external devices, enabling reliable data exchange over USB host mode.
- Designed firmware for PIC microcontrollers for industrial control systems including motor control and sensor interfacing.
- Implemented ADC-based monitoring and real-time sensor processing.
- Integrated UPS-based power management system with ADC-based voltage monitoring and power status detection.
- Developed custom USB communication by modifying STM32 HID class for proprietary protocols.

Embedded Intern

PHYTEC Embedded Pvt. Ltd, Bengaluru

Jul 2023 – Feb 2024

- Developed a complete Yocto-based Board Support Package (BSP) for the RB-i.MX6UL, including configuration and generation of the Linux kernel, device tree blobs (DTB), Barebox bootloader, root file system, and cross-compilation toolchain, along with board bring-up and image generation.
- Porting and board bring up
- Tool chain generation for cross-compilation..

CERTIFICATIONS

Embedded Full Stack IoT Analyst | On-site

Sep 2022 – Feb 2023

Skill Development Institute, Bhubaneswar (SDIB)

Technologies Learned:

- C Programming
- STM32 Microcontrollers , Embedded Linux

EDUCATION

B.Tech, Electronics & Communication

Techno India NJR Institute of Technology – RTU, Kota | 2023

CGPA: 8.5.