

P Shiva Prasad

Embedded Software Engineer

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Summery:

Embedded Software Engineer with over 2.9 years of experience working with embedded systems and STM32 microcontrollers. I have skills in C, C++ and hardware-software integration. Good at troubleshooting, debugging, and creating efficient solutions for embedded devices.

Professional Experience:

ILensys Technologies Pvt. Ltd.
Firmware Engineer

Hyderabad, TG
JULY 2022-present

Projects:

IVF Bench Top Incubator:

Migrated and developed embedded software for a benchtop incubator system, integrating multiple sensors and control systems for enhanced precision in IVF applications.

- **Technologies:** STM32H753ZIT6, ADC, DAC, PWM, I2C, UART, SPI, CO2, O2 sensors, PT100, Solenoids, Flash memory, LCD display, MUX, Flow and Pressure Sensors
- **Responsibilities:**
 - Integrated flash memory for data logging via SPI and storage, ensuring accurate recording of system parameters.
 - Developed a Graphical User Interface (GUI) for the LCD display using the STM32 Touch GFX Designer tool, enabling an intuitive Human-Machine Interface (HMI) for easy monitoring and control of the incubator system
 - Conducted rigorous testing, debugging, and optimization to ensure system reliability and performance in a clinical environment.

Modular Electronics:

Developed a modular electronics system that integrates stepper motor control, sensors, displays, and wireless communication, providing a flexible and scalable solution for various applications.

- **Technologies:** STM32F411RE, Stepper Motor, NHD Display, Segment Display, Bluetooth, Sensors, PWM, I2C, UART and SPI.
 - **Responsibilities:**
 - Designed and implemented motor control algorithms for precise stepper motor operation using PWM.
 - Developed Bluetooth communication to allow wireless control and monitoring of the system via a mobile app to rotate the motor clock-wise and anti-clock wise.
 - Conducted extensive testing and debugging to ensure the system's performance, stability, and seamless operation across all modules.
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Education:

Teegala Krishna Reddy Engineering College (JNTUH)
Bachelor of Technology in Electrical & Electronics
(CGPA: 7.34/10)

Hyderabad, TG
AUG 2022

Technical Skills:

- **Programming Language:** C, C++
- **Microcontrollers:** STM32, Arduino
- **Tools and Environment:** STM32CubeIDE, STM32CubeMX, STM32Cube Programmer, STM32Cube Monitor, STM32 Touch GFX Designer and Arduino
- **Communication protocols and Peripherals:** UART, SPI, I2C, USB, RS232, RS485, GPIO, Interrupt, Timer, PWM, ADC, DAC
- **Displays:** LCD, Touch display (Winstar), 16x02, 20x04 NHD (SPI) Displays
- **Display GUI Tools:** STM32 Touch GFX Designer, Embedded Wizard
- **Memories:** Flash
- **Motor controls:** DC, Stepper, BLDC, Servo
- **Debugging Tools:** Logic Analyzer, Multi-meter, Oscilloscope
- **Serial Communication Application:** putty, Hercules, Dock light, YAT
- **Real time operating system:** Free RTOS
- **IOT:** Bluetooth