

DINESH KAMMARI

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OBJECTIVE

- Seeking a challenging position and professional development with technology related company which offers continuous growth opportunities

PROFESSIONAL SUMMARY

- Having 2 Years 6 Months of experience in Embedded Software Development and Testing.
- Experience in Board-bring up drivers on AT89C51, ATMEGA32A, STM32F4xx, STM32G0xx, STM32L4xx, STM32H7xx, PIC24FJ64GC010 and Arduino.
- Experience in debugging hardware boards using Multimeters & Oscilloscope.
- Experience in debugging Software using Cube Monitor.
- Good understanding of serial communication protocols like UART, SPI and I2C protocols.

SKILL SET

- **Language** : C, Embedded C, C++ (Basics)
- **Microcontrollers** : AT89C51(8 bit), ATMEGA32A (8 bit), STM32F4xx (32 bit), PIC24FJ64GC010 (16 Bit).
- **IDE** : Keil µVision IDE, CubeMX, cubeIDE, Atmel Studio, MPLAB XIDE
- **Communication Protocols** : UART, I2C, SPI, RS232, RFID, GSM
- **Tools** : Tera Term, Real Term, Logic Analyzer, Key Sight Data Logger
- **Operating systems** : Windows
- **Debugging Tools** : Multimeter, Oscilloscope, Cube Monitor.

EXPERIENCE

- **Firmware Engineer** at iLenSys Technologies Pvt.Ltd Hyderabad (October 2022 – Till Date).

PROJECTS

Project 1: HOT PLATE MAGNETIC STIRRER

In this project, we developed a hot plate magnetic stirrer control system that enables users to manage Temperature and stirring speeds and durations directly through a user-friendly interface. The system features intuitive controls that allow for precise adjustment Rotary Encoder, ensuring optimal mixing for various laboratory experiments. This setup enhances convenience and efficiency, making it accessible for users in a variety of settings without the need for advanced technology.

Environment: STM32 Microcontroller, STM32Cube IDE.

Client: ThermoFisher.

Responsibilities:

- Configured rotary encoder GPIO pins for rotary encoder and validated with Cube IDE screen.
- Configured GPIO LEDs driver and validated with hardware board.
- PID for Heater and Motor.
- Interfaced PT1000 and Thermocouple for reading Temperature and External ADC -24 Bit (SPI Protocol).
- Configuring push buttons as input pins to allow for the increment and decrement of the timer settings.
- Configured Triac driver and connected to custom board.
- Creating a user-friendly interface that allows easy adjustment of parameters like temperature, stirring speed & Time Adjustment.
- Testing temperature uniformity test with Data Acquisition System (Key Sight).

Project 2: Nova Sync

In this project aims to interface as many sensors and devices as possible for a demo system, allowing real-time data acquisition and control. The system integrates a variety of sensors and actuators for monitoring environmental conditions and controlling devices such as motors and heaters.

Environment: STM32 Microcontroller, STM32 Cube IDE.

Client: Internal Project.

Responsibilities:

- Implemented temperature sensing using MAX31865 with PT100.
- Connected and managed FS1012 flow sensor for fluid flow measurement.
- Implemented DC motor speed control using PWM with a MOSFET driver.
- Implemented DC motor speed measuring using Rotary Encoder.
- Integrated SEN0232 noise sensor for noise level detection.
- Developed heating control logic for temperature regulation.
- Controlled Peltier module for temperature management in cooling/heating applications.

Project 3: MODULAR ELECTRONICS

In this project, we developed a modular electronics system that allows seamless integration between an STM32 microcontroller and various external hardware modules, such as displays, motors, sensors, and communication interfaces. This modular framework enables easy expansion and customization for diverse applications, offering flexibility in system design by supporting plug-and-play connectivity for different modules.

Environment: STM32 Microcontroller, STM32Cube IDE.

Client: Internal Project.

Responsibilities:

- Configured GPIO pins for interfacing with various modules (Display, Motor, Sensor, ADC's etc.) and validated them using STM32 Cube IDE.
- Interfaced external ADC, PWM modules, and discrete I/O for motor control with STM32, ensuring accurate signal processing and control.
- Integrated digital and analog sensor modules using I2C and SPI protocols, and verified the modular setup on a custom STM32 board.

EDUCATION

- **B.Tech** in Electronics and Communication Engineering from G PULLAIAH COLLEGE OF ENGINEERING AND TECHNOLOGY (JNTU Anantapur) in the year 2021.

PERSONAL INFORMATION

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| • Date of birth | : | NOV 20, 1999 |
| • Nationality | : | Indian |
| • Gender | : | Male |
| • Languages | : | English, Telugu |
| • Passport | : | W1087138 |
| • Permanent Residence | : | Kurnool, 518002. |

(K Dinesh)