

CHITTIMALLA LAHARI

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Career Objective:

To be a part of an organization that gives an opportunity to serve the organization and where I can improve my knowledge in various technical aspects and research fields.

ACADEMIC QUALIFICATION:

Qualification	Institution	Board/university	Year	Percentage
B. Tech (ECE)	Sri Indu college of engineering and technology	JNTUH	2023	85
Intermediate	Sri Chaitanya Junior College	TSBIE	2019	93
10 th Class	Nagarjuna High School	S.S.C	2017	95

WORK EXPERIENCE:

Intern Embedded Developer - Geekbull Consulting [05-08-2024 to 08-11-2024]

- **Project:** Data Logger Development
 - Role: Firmware Developer
 - Worked on firmware development for data loggers to ensure accurate and efficient data collection.
 - Developed algorithms for real-time data logging and storage in embedded systems.
 - Optimized the system for low power consumption and increased data accuracy.

TECHNICAL SKILLS:

- Embedded C programming
- Hardware Board: Team Bits Multi IO Kit
- Microcontroller (MCU): LPC1114 from NXP Semiconductors, ESP32, Arduino UNO.
- Tools: VSCode, Arduino Ide, Flash Magic, Serial Terminal
- SPI, I2C, UART.
- CAN(Basics).
- Automated Unit Testing (Ceedling Framework)
 - Front End: Notepad++
 - Backend: TDM GCC, Unity, Ruby, Python, GCOVr.

TRAINING:

- Trained at Team Bits EMBEDDED SYSTEM, Hyderabad.

PROJECTS:

ACADEMIC PROJECT:

- Major Project on “**IOT Based Smart Stick for Blind People**”.

The main aim of this project is to help the blind people to walk without the help of others. These people find difficulties in detecting obstacles near them, while they are out from their home all alone, which is very dangerous to them. In normal stick, the detection of the obstacle is not done and normal stick is not efficient for visually impaired persons. Because the blind person does not know what type of things or objects come in front of them. The person cannot recognize what is the size of that object. By using the ultrasonic sensor, we can detect the obstacles. This system is very useful for people.

PROJECTS DONE AT TEAM BITS:

Project#1: Analog Data Measurement

There are 2 analog inputs on MIO hardware board: 0 to 3.3v POT and LM35 temperature sensor Both

the inputs are connected to Microcontroller on-chip 10-bit ADC:

- POT is interfaced to AD0 channel and LM35 is interfaced to AD1 channel

ADC is configured for 1MHz clock and counts 3.22mv step.

POT voltage varies (0 to 3.3v) when the knob is moved clockwise/ counter clockwise.

LM35 generates 10mv for 1 degree rise in temperature.

ADC software flow:

- Select the ADC channel, Start the ADC, wait for the Conversion and Read the A2D 10-bit count

POT voltage and Room Temperature are measured and displayed.

Drivers Used in this project are ADC and LCD (STDIO re-directed).

Project#2: Serial DAC (SPI)

There is a serial DAC (MICROCHIP MCP4911) available on MIO hardware board interfaced to Microcontroller through SPI bus. Using SPI driver function, we can set the DAC value and observe the DAC output voltage.

Project#3: Automated Unit tests

Unit is a smallest piece of code (C function) that can be logically isolated in a system. Unit Test is a piece of a code (test case) designed to verify the behaviour of a particular unit independently to produce a pass or fail result. It is about comparing the expected vs actual behaviour of function. Ceedling is a unit test framework that makes it easier to run and test our code. It also records the test results. Ceedling includes Unity and Mock. Ceedling comes with a command line tool that can be used to run the tests and generate the reports.