

Naga Venkata Sumanth Goli

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Location: Hyderabad

OBJECTIVE

Aspire to develop innovative embedded systems by leveraging expertise in advanced C programming, debugging techniques, communication protocols, and system-level programming. Dedicated to creating reliable software solutions that address complex technological challenges and drive organizational success.

PROFESSIONAL SUMMARY

Embedded Software Engineer with 1+ years of experience in developing and optimizing embedded systems.

- Hands-on expertise in advanced C programming, Data Structures (linked list), and BLE (Bluetooth Low Energy) integration.
- Proficient in debugging techniques and tools such as GDB and GCC.
- Strong knowledge of IPC Mechanisms (Pipes, FIFOs, Message Queues, Shared Memory) and multi-threading using mutex locks.
- Skilled in communication protocols (UART, I2C, SPI).
- Good knowledge on ARM microcontroller.
- Experienced with build systems like MAKE and CMAKE for seamless project deployment.

PROFESSIONAL WORK EXPERIENCE

- Working as Software Associate at **Edgerock Software Solutions Pvt Ltd, Hyderabad** from January 2024 to till date.

TECHNICAL SKILLS

- **Programming Languages** : C (including Embedded C), Python.
- **Data Structures & Algorithms** : Linked lists, Stack, Queue, Searching, Bubble Sort.
- **System Programming** : File Management, Threads, Process Management, IPC Mechanisms (Pipes, FIFOs, Message Queues, Shared Memory), Semaphores, Mutex, Socket Programming.
- **Communication Protocols** : UART, I2C, SPI.

- **Networking Protocols** : TCP, UDP, IP, ARP, DHCP, STP, DNS.
- **Tools & IDEs** : GDB, GCC, Segger Embedded Studio, Arduino.
- **Operating Systems** : Linux (Ubuntu), Windows.
- **Hardware Platforms** : ESP32, nRF52833, BNO055, Arduino.

PROJECT

Title: DASHPOD (BLE- Enabled Athlete Performance Analysis)

Role: Developer.

Software & Tools: Segger Embedded Studio, nRF52833

Programming Language: Embedded C.

Description:

This project is used to facilitate athlete performance analysis through an innovative system incorporating radar and accelerometer technology. Powered by the nRF52833 main MCU and utilizing Bluetooth Low Energy (BLE) for mobile app connectivity, the system enables seamless communication between the device and the user's smartphone. Key functionalities include wave and tap detection utilizing the A111 radar sensor and LSM6DSR accelerometer-gyro sensor respectively. Additionally, the integration of a Buzzer and Addressable LEDs provides real-time feedback to users. Collaborating closely with the app development team.

Firmware Implementations:

- Developed firmware for LSM6DSR accelerometer to detect tap gestures.
- Optimized power management strategies to extend battery life.
- Conducted firmware debugging and performance testing using Segger J-Link and nRF tools.
- Proficient in working with embedded protocols (I2C, SPI, UART) at the register level.

Responsibilities:

- Developed the code for LSM6DSR accelerometer sensor.
- Implementing the communication protocols for the above modules.
- Evaluated Dashpod device performance under varying activity levels, environmental factors, and network scenarios, ensuring optimal response times and resource utilization.

EDUCATION

Bachelor of Technology (B. Tech) – Computer Science Engineering

Narasaraopeta Engineering College, Andhra Pradesh | 2019-2023

Graduated with a CGPA of 8.01/10.

DECLARATION

I hereby declare that all the information provided in this resume is accurate to the best of my knowledge.

Naga Venkata Sumanth Goli