

BANDARU SRINIVASA PARASARA SARMA

✉ sarma.srinivasa3@gmail.com ☎ +91 7981486321 📍 Gurgaon

PROFILE

I am an experienced Embedded Software Engineer with a specialization in IoT frameworks and embedded firmware development. My expertise lies in designing, developing, and optimizing embedded systems, ensuring seamless integration and high performance tailored to diverse applications.

EDUCATION

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| SRM Institute of Science and Technology, Graduation CGPA - 8.6 | Jun 2018 – May 2022 |
| Bhashyam Intermediate College, HSC CGPA - 8.0 | May 2016 – May 2018 |
| Bhashyam Blooms, SSC CGPA - 8.2 | May 2015 – Apr 2016 |

PROFESSIONAL EXPERIENCE

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| Aaensa Tech, Firmware Design Engineer Skilled in designing and developing firmware for microcontrollers & integrating communication modules. Expertise in IoT frameworks, real-time operating systems, and optimizing embedded systems for performance and power efficiency. | Jan 2024 – present Gurgaon, India |
| Emertxe Information Technologies, Embedded Firmware Development Hands-on training and project experience on microcontrollers and embedded systems. Developed & optimised code as per requirements. | Nov 2022 – Dec 2023 Bengaluru, India |

SKILLS

Embedded C, Advanced C, Data Structures and Algorithms, C++, Linux shell scripting, IoT & Networking, Low-Level / Bare Metal Programming, Git Repository, Jira Management, Software Design Documentation, FreeRTOS, Embedded system design

CERTIFICATES

Machine Design Part 1

Robotics
NPTEL

PROJECTS

Car black box

Jul 2023 – Aug 2023

- Created a system to store logs containing information regarding all the previously occurred actions during an accident/collision.

Smart Neck Band For Livestock and Pets

Feb 2024 – May 2024

- A smart neckband for livestock and pets monitors health metrics such as heart rate and temperature, offering real-time alerts and data analysis via a mobile app.
- ESP-32, SimCom A7672S via AT Commands & GPS module, Heart rate, Accelerometer, Gyrometer, Magnetometer sensors, FreeRTOS mechanism, IoT feature.

5G Router

Jul 2024 – Aug 2024

- Implemented a ON/OFF mechanism using an automation grade ATtiny 402 microcontroller by using MPLAB IDE and converted Arduino UNO as JTAG2UPDI programmer.
- GPIO I/O, JTAG2UPDI conversion, ATtiny 402.

Electromedical Device,

Jun 2024 – Nov 2024

This device is based on STM32L4 series.

- This electromedical devices specializes in advanced medical technology, focusing on innovative solutions for patient monitoring and diagnostics. They are designed to enhance healthcare delivery through precision, reliability, and ease of use.
- STM32L4 low level firmware programming, haptics, audio, ALS sensor, FreeRTOS, API's, Wi-Fi, Debugging.
- Used STM32CUBE IDE as development platform.

Emergency Lights Device

Jun 2024 – present

- Developed firmware for BC65 module OpenCPU programming to implement switch-based device for safety procedures.
- BC65 programming, LC76F microcontroller, GPS, GSM.

Wi-SUN Network

Apr 2024 – present

- Implemented a broadcast feature in Wi-SUN border router and nodes using TCP and UDP protocols. Also integrated application layer API calls in place of Command Line Interface.
- TCP/IP, UDP, Raspberry Pi, EFR32 board, Multicast feature and API calls.

COMMUNICATION PROTOCOLS & TOOLS

Protocols :

- UART / USART
- SPI
- I2C
- TCP/IP
- UDP
- HTTP(S)

Tools :

- Visual Studio
- Arduino IDE
- ESP-32 IDF
- STM32CUBE IDE
- Microchip Studio
- Simplicity Studio

MICROCONTROLLERS & COMMUNICATION MODULES

- ESP-32 (4/8 MB)
- STM32L4 ARM Cortex-M4 MCU
- BC65 NB-IoT Cellular Module
- GPS & GNSS Module
- Wi-SUN(Wireless Smart Utility Network)
- ATTiny 402 Series
- SimCom A7672S Cellular Module
- LC76F GNSS module

PLATFORMS

- IoT Framework
- NB-IOT Framework
- IDE Environment
- IDF Framework
- IDE toolchains & Debugging

ORGANIZATIONS

Association of Mechatronics Engineering

Sep 2020 – May 2022

Part of AME association and took part in various operations.

Directorate of Student Affairs,

Jul 2019 – May 2022

Member of operations committee

INTERESTS

Swimming | Travelling | Cycling

LANGUAGES

English ● ● ● ● ● Telugu ● ● ● ● ●
Hindi ● ● ● ● ●

DECLARATION

I hereby confirm and verify all the facts mentioned above and I hold the responsibility of their authenticity and correctness.

BANDARU SRINIVASA PARASARA SARMA