

Narendran Srinivasan

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BRIEF

Experienced Electronics and Instrumentation Engineer with 2+ years of expertise in embedded systems, specializing in IoT, automotive, and avionics applications. Skilled in developing optimized real-time solutions, I am seeking a full-time role to drive innovation and contribute to advancements in the embedded systems industry.

EXPERIENCE

Qualcomm - Hyderabad, India

Engineer (Network Drivers)

March 2025 - Present

- Developing TCP/IP Network drivers for a next generation modem softwares

Chara Technologies - Bengaluru, India

Embedded System Engineer

April 2024 - February 2025

- Engineered GPRS connectivity between vehicle and cloud to ensure continuous communication and data transfer.
- Developed a Flutter-based Android application utilizing BLE for real-time 2W rider statistics analysis.
- Directed the implementation of End of Line Testing (EOLT) procedures for motor validation, resulting in streamlined quality checks that reduced testing time by 30%, enhancing production efficiency.
- Designed an innovative intermediate device that bridges cloud and vehicle motor control units, enabling wireless rider data collection, OTA updates, and parameter monitoring/flashing.
- Currently developing a cluster-integrated ECU with a negative LCD for 2W/3W vehicles.
- Developed I2C, SPI, and UART drivers at the bare-metal level on STM32 microcontrollers for optimized communication with peripherals.

IoT Engineer

June 2023 - March 2024

- Enhanced data logger for greater efficiency and optimized memory usage.
- Developed a CAN-based PyQt5 GUI for motor control unit tuning and monitoring.
- Crafted a robust universal UART bootloader utilized across four distinct MCU architectures, enabling seamless integration and decreasing development cycle by approximately two weeks on average.
- Implemented BLE-based Wi-Fi provisioning and custom parameter configuration using ESP-IDF.
- Developed memory-efficient and fast filter algorithms like moving average and IIR.

Zynomi Private Limited - Bengaluru, India

October 2022 – February 2023

R&D Internship

- Established robust long-range connectivity using the RFM95 LoRa device for industrial applications and developed a subscription-based water purifier system utilizing Wi-Fi and LoRa protocols.
- Designed, assembled, and tested a 2-layer PCB, and implemented LoRa gateway connectivity with the SenRa Gateway for enhanced network reliability and system monitoring.
- Engineered a 5V Battery Management System (BMS) from a 230VAC supply, optimizing power management for industrial IoT devices.

EDUCATION

The Birla Institute of Technology & Science - Pilani, India (WILP)

June 2024 - Present

Master of Technology - Embedded Systems

- Specialized coursework in integrated Real-time Systems with FPGA on microcontrollers for avionics.

Government College of Technology - Coimbatore, India

August 2019 - April 2023

Bachelor of Engineering - Electronics and Instrumentation

CGPA: 8.54

- Concentration in Electronics and Instrumentation Principle.
- Involved in the Society of automotive engineers club - as an Electrical validation member ,Founding member of IEEE GCT and Smart India Hackathon finalist of 2022

SOFT SKILLS

• Communication • Teamwork • Adaptability • Problem solving • Leadership • Critical thinking • Time management

TECHNICAL SKILLS

Programming Languages	C, Assembly, Python, Verilog, Dart
Additional Programming Skills	DSA, RTOS, Software design patterns, LVGL, Qt, UML
Microcontrollers	PIC, TI-C2000, NXP LPC2378, STM32 (F4/F0/G0), ESP32 (S2, S3)
IDE	Code Composer Studio, ESP-IDF, STM32 CubeIDE, IAR, Pycharm, Keil uVision
Wired Communication	SPI, I2C, UART, CAN, LIN, USB, RS485/RS232, MODBUS
Wireless Communication	Wi-Fi, BLE, LoRa, GPRS, GPS, GSM, Zigbee, IR
Application layer protocol	HTTP, MQTT, COAP, LwM2M
Peripherals	PWM, NVIC, DAC, FLASH, RTC, DMA, Bootloader, FOTA, TIMER
Microcontroller interface	SWD, JTAG
Debugging tools:	Oscilloscope, Signal Generator, Multimeter, Logic Analyzer
Software Stacks/tools	PyQt, CNN, Flutter, Tkinter, MySQL, Docker.
Cloud platforms	AWS, Azure
Simulation & design tools	MATLAB, Altium Designer, Kicad, Vivado, LTSpice, Proteus, SquareLine Studio, GUI Guider, Figma.
Version Control tools	Git, Bitbucket
Documentation	Confluence, Doxygen, Google workspace, Notion

PUBLICATIONS

- **Design and Development of Temperature Controlled Intelligent Portable Reefer Container for Delivery Optimisation in Logistics and Supply Chain Management** - 2022 3rd International Conference on Electronics and Sustainable Communication Systems (ICESC), Pg.58-63,IEEE.
- **ECG AND PULSE OXYGEN LEVEL MONITORING AND ARRHYTHMIA CLASSIFICATION USING CNN** - International Journal of Engineering Applied Sciences and Technology, Vol 6, Issue 8, Pg. 171 - 176, IJEAST.