

Sravani Katta



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Profile

Embedded Software engineer with experience skilled in addressing complex technical challenges and delivering innovative solutions. Proficient in firmware development and solution design. Known for a proactive approach, willing to learn new technologies and meticulous attention to detail, and a strong commitment to meeting product reliability and performance.

Technical Skills

- **Programming & Scripting Languages:** Proficient in C, Embedded C .
- **Instruction Set Architectures:** Knowledge of ARMv4, ARMv7M (ARM Cortex M4).
- **Embedded Controllers:** Experience working with GPIOs, NVIC, Timers, ADC, RTC, Watchdog, SDRAM, SD Card, and EEPROM.
- **Communication Protocols:** Expertise in UART, I2C, and SPI protocols.
- **Embedded Systems Platforms:** Hands-on experience with various distributions including STM32, LPC845, LPC1769, LPC54606, and LPC54608.
- **Tools & Technologies:** Competent in using Keil µVision IDE, J-Flash Lite, Flash Magic, Git, Multimeters, CRO/DSO, MIRO, and Microsoft Office.
- **2 years** -experience as embedded software engineer

Work Experience

Sense Semiconductor and IT solutions pvt. ltd, Mangalagiri

R&D Firmware Engineer intern / August 2023 – July 2025

- **Firmware & Hardware-Firmware Interface Development:** Played a key role in designing and implementing firmware architecture, focusing on seamless integration with hardware interfaces.
- **Sensor Integration:** Successfully interfaced firmware with various sensors such as CT sensors, Hall sensors, and temperature sensors, ensuring reliable data acquisition and processing.

- **Industry Standards Compliance:** Gained experience in adhering to RS232/485 protocols and current loop standards while interpreting and navigating electronic schematics. .
- **Debugging & Testing:** Conducted thorough testing and debugging using tools such as DSOs and Logic Analyzers, ensuring system reliability and functionality.

Projects

Electronic Interlocking Protocol Converter (EIPC) *Protocol*

Conversion System for Railway Stations

- **Objective:** To convert proprietary railway protocols into standardized protocols as defined by RDSO (Research Design and Standard Organization) for enhanced compatibility and communication.
- **Technologies & Tools Used:** Embedded C, Keil μ V5, Miro, LPC54606, LPC54608.
- **Peripherals Managed:** USART, GPIO, Timers, RTC, SDRAM, I2C, SPI, EEPROM, SD card, and Watchdog.
- **Responsibilities:**
 - Designed and implemented modules responsible for communication with the Electronic Interlocking module and interfacing with multiple controllers.
 - Developed a digital scanning module and optimized data processing through bitbanding techniques.
 - Integrated Ethernet for robust communication with external systems and conducted detailed analysis on interrupt latency and tail chaining timings.

Battery Health Monitoring System (BHMS)

Real-Time Battery Monitoring for Railway Stations

- **Objective:** To continuously monitor voltage, current, and temperature metrics in railway relay rooms, with automated alert generation during abnormal conditions.
- **Technologies & Tools Used:** Embedded C, Keil μ V5, Miro, MKE04, LPC54606, LPC845.
- **Peripherals Managed:** ADC, USART, GPIO, Timers, Watchdog, I2C, SPI.
- **Responsibilities:**
 - Led the design and implementation of the battery voltage scanning module.
 - Developed calibration algorithms for voltage and current channels, enhancing the accuracy of monitoring systems.

Signal Health Monitoring Unit (SHMU)

Signal Lamp Monitoring System for Railways

- **Objective:** To monitor and report the health of signal lamps, providing real-time data to a central system while generating alerts for any failures or abnormalities.
- **Technologies & Tools Used:** Embedded C, Keil μ V5, Miro, LPC845.
- **Peripherals Managed:** ADC, USART, GPIO, Timers.
- **Responsibilities:**
 - Designed and implemented a calibration module with an advanced search algorithm for precise current monitoring.
 - Developed a real-time current scanning module, ensuring timely updates to the central monitoring system through a specified communication protocol.

Summer intern | National Institute of Electronics and Information Technology, Calicut.

- **IMPLEMENTATION OF DIGITAL STOP WATCH CLOCK ON FPGA BOARD** -Designed and implemented using Verilog.
 - Involved a functional and accurate stopwatch system with user interaction features

Education			
Examination	Institute	Year	CGPA/%
B.Tech (Electronics and Communication)	IIIT -Nuzvid	2024	85
Pre university course(PUC)	IIIT -Nuzvid	2020	89
SSC	Vignan Bharath high school	2018	100