

# Chandana Mrudula

Mrudula Chandana | LinkedIn

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## PROFESSIONAL SUMMARY

Embedded Engineer with 3 years of experience in microcontroller firmware development. Strong expertise in C programming, BSW Development. Proficient in software development, debugging, and testing using JTAG, CANoe. Hands-on experience in ASPICE (SWE.1 to SWE.6), ISO26262, and Agile methodologies for software development and compliance. Skilled in requirement tracing using JAMA and integration testing. Demonstrated Strong documentation skills ensuring knowledge sharing within the team.

## TECHNICAL SKILLS

- **Languages & Coding Standards** : C, MISRA C
- **AUTOSAR Modules** : CDD, Diagnostic Stack (DEM, DCM), COMM Stack, RTE, UDS
- **Communication Protocols** : SPI, CAN
- **Testing & Debugging Tools** : CANoe, Helix QAC, JTAG
- **Version Control System** : Git
- **Methodologies** : Agile
- **Requirement Management Tool** : Jama
- **Issue Tracking** : JIRA
- **Development & Configuration Tools** : S32DS, DaVinci Configurator, DaVinci Developer

## EXPERIENCE

TCS, HYDERABAD

July 2022 - Current

**Project Name:** Clarios-BMS SW Development

**Domain Controller:** Battery Management System

**Microcontroller:** NXP S32K312

**Client:** Clarios

**Project Description:** Battery Management System (BMS) ECU responsible for cell monitoring, balancing, fault detection, and thermal management to ensure safe, reliable, and efficient operation of lithium-ion battery systems.

### Roles and Responsibilities:

- Developed and optimized embedded C code for complex device drivers, ensuring 98% test coverage in sanity testing.
- Implemented firmware for cell monitoring devices (ADBMS1804, NXP MC33772C) to enable accurate voltage, temperature sensing in lithium-ion battery systems.
- Strong Knowledge of Classic AUTOSAR architecture.
- Creation and configuration of SWC ports.
- Integration of CDDs/BSW with ASW ports.
- Implemented SPI communication protocols for reliable data transfer between microcontrollers, cell monitoring IC
- Performed static analysis using Helix QAC, ensuring compliance with MISRA C and Automotive Coding Guidelines.
- Designed and documented detailed software design, unit construction, and requirement tracing in JAMA, improving traceability and compliance with ASPICE standards.
- Prepared and executed unit and integration test cases, improving defect detection by 25%.
- Proficient in interpreting datasheets and technical reference manuals to implement accurate peripheral configurations and driver logic.
- Proactively developed the BSW Integration Test Work Instructions document to standardize processes and enhance testing efficiency.
- Experienced in understanding and working with technical schematics.
- Performed comprehensive firmware validation through both bench-level and Hardware-in-the-Loop (HiL) testing to ensure system functionality, reliability, and compliance with design and safety requirements.
- Collaborated cross-functionally with multiple teams to ensure alignment and efficient project execution.
- Engaged in sprint retrospective meetings to reflect on team performance and implement actionable improvements.
- Familiar with a wide range of automotive tools, standards, and systems, contributing to efficient development and validation of automotive software solutions.

## AWARDS AND CERTIFICATIONS

**Best Team Award** / TCS

June 2023

**Special Initiative Award** / TCS

December 2024

**Certified AUTOSAR Embedded Engineer** | ANCIT Technologies (400-hour external certification program)

December 2022

## EDUCATION

**Gayatri Vidya Parishad College of Engineering**

August 2018 – June 2022

B.Tech in Electronics and Communication- 8.78 CGPA

**Sri Chaitanya Junior College**

June 2016 – March 2018

Board of Intermediate - 974/1000

**Abhyudaya High School**

April 2016

Secondary Board of Education - 9.8 CGPA