

# MANTHAN UMAK

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**Embedded Software Engineering: Software Development | Project Management | Team Management**

*Automotive | Mobile SOC | Industrial Automation*

Technocrat with 5+ years of experience Embedded Software Development, including Feature Development, Device Driver Development, Porting, Analysis, Debugging, and Project Monitoring using agile methodology with complete Software Development Life Cycle, Proven skills in C language, OS, Microcontroller, ARM processors, Debugging and Serial communication protocols and CAN. Exhibited a comprehensive understanding of embedded systems and hardware integration with proven skills in leveraging analytical and problem-solving skills in a fast-paced environment.

**Core Competencies:** SDLC | Agile Methodologies | ASPICE | Debugging | JIRA | Quality Management | Requirement Gathering & Design | Compliance | Client Issue Resolution | Risk Management | Reporting | Training | Cross Functional Collaboration

**Technical:** ARMv7 | ARMv8 | Cortex-A | Cortex-M | Microcontrollers 32-bit | Trace32 Debugging | ARM TrustZone | TEE | C Language | Embedded C | Embedded Systems | Linux | Operating Systems | Pre-Silicon and Post-Silicon | Board Bring Up | Device Driver | Microcontroller | Python (SCons) | Communication Protocols (I2C, SPI, UART, CAN) | Klockwork | MISRA C | Git/SVN | Data Structures and Algorithms | Bootloader

## Professional Experience

**Qualcomm, Hyderabad, Telangana | Senior Software Engineer**

**Apr 2022 – Nov 2023**

- Successfully managed the complete software development process from conception to deployment.
- Exhibited skills in maintaining and upgrading the software post-deployment for 32-bit ARMv7-A profile.
- Successfully ported the existing ARM TrustZone code stack in bootloader to seamlessly integrate with new Modem targets based on ARMv7-A.
- Skilfully identified and resolved issues during pre-silicon and post-silicon activities regarding interrupts, access control and platform drivers, showcasing expertise in debugging and ensuring robust Board Bring Up activities for Secure System services and device drivers.
- Skilfully updated the device drivers of Watchdog and GIC for ARMv7-A profile in ARM TrustZone Firmware.
- Proactively developed and implemented new Feature Requests from clients and internal/external teams, demonstrating a commitment to meeting evolving requirements and strong hands-on Embedded C and assembly language.
- Maintained a high level of responsibility for the release of TrustZone images, ensuring timely and reliable project deliverables.
- Conceptualized, documented, and communicated regarding software development architecture, including requirement gathering and requirement elicitation.
- Extensively contributed to design, development, and production support of the project and quality maintenance.

**Emerson Innovation Centre, Pune, MH | Software Engineer**

**Feb 2021 - Apr 2022**

- Exhibited skills in developing software and methodologies in C and FreeRTOS to seamlessly integrate field devices with Host systems.
- Conducted rigorous unit tests on the developed software and methodologies, ensuring robust performance and functionality.
- Successfully created Device Descriptors to integrate third-party Dual Input Temperature transmitters with Host Systems.
- Diligently performed bug fixing for the developed software, maintaining high-quality standards.
- Prepared and updated comprehensive documentation related to device integration, ensuring clear and accessible reference materials.

**LG Soft India, Bangalore, Karnataka | Embedded Software Developer**

**Aug 2018 - Feb 2021**

- Conducted comprehensive requirements analysis, software design, development, and testing across all stages of the Software Development Life Cycle (SDLC) for Automotive Infotainment ECU.
- Contributed to the development of Instrument Cluster Software components, including Night Vision Assist, Media, Lane Guidance Assist, and 4-Wheel Drive in RTOS environment. Implemented bug fixes and static analysis (MISRA C) corrections for the developed Automotive application Software Component (SWC).
- Updated the I2C device driver for communication with EEPROM for diagnostic related operations.
- Executed unit and integration testing for the developed SWC on Infotainment ECU, ensuring the reliability and swift integration of software components.

## Education

P.G. Diploma in Embedded System Design | CDAC, Pune, Maharashtra | 2018

Bachelor of Engineering in Electronics and Telecommunication | SGBAU, Amravati, Maharashtra | 2017

Diploma in Engineering in Electronics and Telecommunication | P.R. Patil Institute of Technology | 2014