**MADHAV MOHAN**

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**SUMMARY**

Versatile and results-driven software engineer with 3+ years of experience in Automotive embedded software development. Skilled in C++17, POSIX APIs, AUTOSAR, Linux/QNX OS. Strong problem-solving abilities, adept at debugging, SW integration, and multi-threaded programming. Experienced in Agile environments, with proven ability to deliver high-quality solutions in a fast-paced environment.

**SKILLS**

**Programming & Scripting**: C, C++17/14, CAPL, Python, Bash, POSIX APIs.

**Software Practices**: OOP, Design Patterns, Multithreading(Process Sync), Data Structures, MISRA Guidelines.

**Tools & Frameworks**: CMake, Git-Svn(CoreAlm, BitBucket), Vector CANoe, Klockwork(QAC: Static code Analysis Tool), IBM DOORS, GTest & GMock, Vectore Cast(Unit Testing), QNX Momentics(IDE), Confluence, VS-Code(IDE), JIRA, FileZilla, WinScp.  
**Embedded & Automotive**: Adaptive AUTOSAR, RTOS (Linux/QNX), SOME/IP, IPC(MessageQ, Shared Memory, Signals, SocketProg, etc), UDS, CAN, I²C, SPI, UART, ETHERNET.  
**Testing & Debugging**: Functional, Component, and Integrated Module Testing.

**EXPERIENCE**

**DXC Technology – (Got opportunity via IM) Bangalore, India**

**Apr 2025 – Present | Amber (ADAS Based)**

* Developed and integrated QNX Resource Managers for ADAS sensors, including LiDAR, Radar, Vehicle Speed Monitoring, and Lane Detection on Qualcomm-based ECUs.
* Enabled real-time sensor data acquisition and distribution to SWCs, ensuring low-latency and high-reliability communication.
* Implemented dynamic bidirectional ECU power state management (*Operational*, *Idle*, *Sleep*, *Standby*, *Shutdown*), integrating a SystemProtectCheck safety layer to monitor overvoltage, undervoltage, and overtemperature conditions.
* Modified the gRPC stack to communicate ECU power state transitions across platforms — from Aurix (FreeRTOS) → SOC (QNX) ↔ gRPC ↔ Android — ensuring synchronized state awareness and preventing infotainment disruptions during transitions.

**Luxoft (DXC Technology) – Bangalore, India**

**Aug 2024 – Apr 2025 | ADAS – Automatic Emergency Braking (AEB) & Automatic Reverse Assist (ARA) - Volkswagen**

* Contributed to designing an MW Interface that leverages rear camera data and CAN signal updates for obstacle detection during reversing manoeuvres & applies emergency braking on Obstacle detection.
* Developed inter-core communication on the TDA4 platform using multithreading and semaphores for synchronization, enabling efficient data transfer between heterogeneous cores (R5F, A72, C7x).
* **Optimized DBM data-fetch process**, lowering **CPU core usage** (from 18% to 6%) through targeted debugging and code improvements.
* Requirement analysis, test case design & management using IBM DOORS, including reviewing system/software requirements and ensuring traceability through structured test case development.
* Worked on testing and validating the ETH/CAN interface, ensuring data transmission integrity at different levels.
* Automated CAN interface-based test cases via CAPL & Python scripts that significantly reduced the testing Time to 1hr.
* Hands-on experience with the GHS Probe v4 tool for efficient software debugging, identifying and resolving issues to ensure smooth functionality of the system.

**Mar 2023 – Aug 2024 | System Validation & Feature Integration – Volkswagen**

* Performed **system validation** and **integration** for ECU features, including:
  + ECU state transitions and thermal monitoring (Camera & ECU SoC overheating failure testing)
  + Video pipeline quality analysis (bitrate, framerate, H.264 codec, I-frame detection, flicker, MPEG/RTP protocol)
  + 360° camera view functionality testing.
* Conducted black box testing after SW releases to ensure robustness.
* Collaborated with software teams for debugging, feature tuning, and bug fixing.
* Managed ECU flashing using **UART**, **Lauterbach**, **ODIS**, and direct Camera flashing on Linux.
* Maintained test cases and requirements in **IBM DOORS**.

**May 2022 – Mar 2023 | Software Integration – BMW**

* **Integrated and validated** ADAS parking features for BMW’s autonomous parking systems.
* Conducted **system-level testing** of autonomous parking functionalities.
* Ensured **robust communication** between software modules and hardware.
* Developed and tested on **Linux/QNX targets**, following **AUTOSAR** architecture and **MISRA** coding compliance.

**GeeksforGeeks – Noida, India** *Intern – Problem Setter & Author | 2020 Aug – 2021 Mar*

• Authored 45+ technical articles on DBMS, Data Structures, C, C++, SDLC, and other topics.  
• Created coding challenges and problem statements for competitive programming.  
• Enhanced educational content for India’s most visited computer science knowledge platform.

**EDUCATION**

Dr. A. P. J. Abdul Kalam Technical University – Lucknow, UP  
Master of Computer Applications (MCA) | CGPA: 8.31/10 | 2018 – 2021

**STRENGTHS**

• Continuous Learning & Knowledge Sharing • Strong Team Collaboration & Communication  
• Creative Problem-Solving • Quick Adaptation to New Technologies & Domains