Sreehari Karamchedu
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Senior Engineer with 17+ years in-depth software development experience using SAFe, Agile / Scrum Methodology. Expert in planning, execution of software development and R&D projects by managing tasks, schedules, fully reviewing intended functionality to enable key features and their scalability. Effectively identifies and resolves root problems leading to smooth releases. Proven leader, skilled at training new teammates, monitoring progress and boosting learn morale. Collaborate cross-functionally to support production of high-quality software packages to stakeholders.

Core Competencies:

- Specialized in Software Defined Vehicle (**SDV**), Automotive Infotainment / Cockpit, Battery Management systems (**BMS**) and Sensors.
- Enthusiastic about creating software solutions to enhance productivity and expedite time-to-market.
- Designed and implemented hardware virtualization **(*Android - Infotainment*) using *QEMU* and *Hypervisor*** solutions.
- Developed proof of concepts (POCs) to validate GM's **Ultifi-*SDV*** architectural designs following the **SOA** principles and assess feasibility in collaboration with the system architecture team.
- Demonstrates outstanding capabilities in analysis and adept problem-solving.
- Implemented *HMI* and Platform interfaces for key features, including Smart Search, SiriusXM Travel Link, and Customer Connectivity (**TCU** & **FordPass**), in the **FORD's SYNC Gen3** Product.
- Integrated Infotainment systems and **ECUs** through network communication and demonstrated **ADAS** features in a proof of concept on **VCU** (SoC) platform.
- Implemented a mock service using Python and integrated it into the CI/CD pipeline for build automation and initial product validation.
- Developed the ACST tool (**CAN Data Simulation**) using **Python** scripts to read ARXML data and simulate CAN traffic for Infotainment services validation.
- Created the Explorer Android app to simulate vehicle service data flow over SOME/IP, leveraging an **SQLite** database to manage and read simulated service data.
- Extensive experience with ARM-based microcontrollers and SoCs (Intel J6, Snapdragon, and NXP), with a focus on enabling Wi-Fi and Bluetooth connectivity services on virtualization platforms.

Technical Skills:

- Android, AUTOSAR, Linux, QNX, Hypervisor, RTOS, ADAS
- SOME/IP, uBus, MQTT, HTTP/S, Container, CAN/ LIN, SPI, UART, RTE, MCAL, CDD, MATLAB, EB Guide, Canoe, ARXML
- Azure, Docker, JIRA, RTC, DOORS, Confluence, GitHub, Jenkins, CI/CD, JFROG
- C, C++, Python, Java Script, HTML, QT/QML, EB Guide, SQL, Automation
- Application Architect and Product Management
- ARM Cortex, Snapdragon, Intel J6, NXP chip sets.
- ART Planning and Feature enabler
- Release Management and Customer alignment
- Proficient in MS Project, MS word, Power Point, Excel tools

Achievements:

- Played a key role in achieving **AUTOSAR** & **ASPICE** compliance in the V-Model SWE area for the organization.
- Showcased technical expertise at the NCTA Cable Show-2014, earning an annual award for outstanding performance and demonstration of L&T products and values.
- Recognized with the ***"Best Team Annual Award***" from L&T for leadership, and received numerous appreciation awards from Samsung, Meteorcomm, and Ford/EB for meeting tight deadlines, demonstrating leadership, and solving complex problems.
- Collaborated with engineering and sales teams, contributing to the acquisition of new business awards and securing over $50 million in business engagement for engineering services.
- Implemented platform virtualized solutions, effectively reducing the overall hardware and infrastructure costs for the company.
- Recognized by co-workers at General Motors for embodying the values of ***'One Team***,' ***'Think Customer***,' and ***'Be Innovative***.'
- **PMP**, **SAFe** Practitioner and Six Sigma Certified.

Education:

- ***Master of Science in Electronics*** *from Osmania University, Hyderabad, India. Year: 2005*

Experience:

General Motors
Role: Senior Engineer
Apr'21 to till Date

- Oversee Human-Machine Interface (HMI) and Application for Infotainment (Android) / Cluster Displays (RTOS - Safe Linux), focusing on evaluating an alternative approach for vehicle data points.
- Integrated Ultifi - ADAS Components (LVM, EVS Camera), as well as other wireless connectivity (Wi-Fi, BT) and Vehicle Services on Snapdragon VCU and CCU (Snapdragon) platforms.
- Developed SDV software services in Infotainment and Automative space, connects with AUTOSAR based Mechatronics (MCU) components compliance with SOA architecture.
- Integrated MATLAB- LVM components with Infotainment services through FSA communication (Follows Legacy and Ethernet communications)
- Collaborated with Google to manage virtual display solutions, supporting a variety of wide Infotainment display options, emulated displays with OpenGL, and software rendering.
- Worked closely with development and product management teams to meet aggressive release schedules, ensuring the delivery of a high-quality product with confidence.
- Applied defined strategies for integrating software development processes, automated testing, and collaborative approaches to enhance the development lifecycle in the Software Defined Vehicle (SDV) space through CI/CD pipeline and BDD test methodologies.
- Implemented and utilized ACST tools to simulate CAN traffic.
- Conducted advanced studies, developed proof-of-concepts (POCs), performed performance analyses, and collaborated with solution architects to define system requirements and specifications.
- Led and mentored a diverse, multicultural scrum team of engineers as an Agile Product Owner in the development of Software Defined Vehicle (SDV), applying high technical expertise and organizational management to ensure projects met superior standards of quality and compliance with company requirements.
- Environment: QNX, RTOS, Android, C/C++, QT/QML, Hypervisor, ADAS, Python, Azure, Jenkins, RTC, Jira.

A123 Systems
Role: Project Lead **May'19 to Apr'21**

- Oversight 12V & 48V Battery Product lines, with responsibilities including monitoring deliverables and actively contributing to the development and delivery of a Battery Management System (BMS) for a 48V mild hybrid vehicle.
- Successfully delivered AUTOSAR- and Functional safety ISO 26262-Compliant Software for a Hybrid Vehicle Battery Management System, employing Model-Based Design.
- Processing of BMS Feature (Cell Voltage, Current, Temperature, SOC etc.)
- Defined Application Interface with RTE Layer for AUTOSAR based Product.
- UDS (ISO-14229): Implementation of different services, Diagnostics, fault Manager, DTCs using Vector, Delphi and AUSTOSAR stack.
- Review HSIS specifications, update MCAL, CDD to align with Battery HSIS requirements.
- Conducted efficient internal and supplier reviews through collaboration with cross-functional teams, including Systems Engineers, Software, Hardware, Testing, and Functional Safety teams.
- Established a Requirements Management workflow and processes to attain ASPICE certification.
- Managed critical path timelines for Battery deployment by strategically planning, organizing, and controlling resources to deliver battery concepts within agreed-upon quality and timescales.
- Generated Traceability, Coverage metrics, Compliance, and feasible metrics to ensure robust performance.
- Analyzed and reviewed safety integrity levels of System, Software, and Hardware requirements, linking them to Safety Goals.
- Led and conducted External and Internal Change Control Board meetings, fostering discussions on new business opportunities.
- Handled forecasting, hiring, and maintained schedule adherence.
- Effectively managed vendor relationships.
- Environment: C, AUTOSAR, CAN/LIN, Python, Polyspace, Rhapsody, RMM, RQM, Jenkins, RTC, Jira, SVN.

Elektrobit, USA **Aug'15 to Jun'19**
Lead Engineer

- Led Radio/SDARS, Travel Link, Vehicle functionality, Phone, and Navigation (HMI) Modules on J6 and ARM chipset for FORD's SYNC Gen3 Product.
- Collaborated with product owners in the evaluation and development of core specifications.
- Analyzed core specifications, breaking down requirements into manageable work tasks for developers and testers.
- Designed and developed interfaces for Sirius Parking, Weather Alerts, and Phone Smart Search features and integrated TCUs with Ford Pass applications.
- Provided mentorship to engineers, offered technical guidance to the support team, enhanced their skills, and boosted overall team performance.
- Contributed to design, documentation, and code review processes.
- Environment: C++, QT/QML, QNX, JAVA, CAN/LIN, TCP/IP, SQLite, Java Script, Python, Squish, Google Unit test, Jira, SVN

L&T Infotech & Tech Services, India **Feb'13 to Jun'15**
Lead Engineer

- Directed the system design for the 'Smart Media Controller,' a pluggable streaming solution supporting adaptive streaming tailored for Content Providers and Aggregators.
- Authored a whitepaper outlining the ABR solution, contributing to the design of "ABR Streaming (SMC) and Ad Insertion Management (ADM)" component software.
- Led and managed the team in developing a versatile software component suitable for both home entertainment and MSOs.
- Architected and designed the SMC Web Server and App using Apache, HTML5, PHP, JS, and MySQL.
- Formulated project plans, ensured adherence to milestones, monitored project progress, managed reporting, handled resource management, and coordinated offshore development activities.
- Presented customer presentations, marketing the SMC to Product vendors and showcasing it at the NCTA Cable Show in California.
- Provided strategic consulting, including the development of business plans and sales strategies.
- Collaborated closely with internal marketing teams and served as the technical coordinator in supplier business discussions to introduce new services to the company.
- Environment: C++, HTML5, CSS, webserver, Video Streaming, Linux, Android SQLite, Java Script, Python, SVN.

Qualcomm, India
Meteorcomm, USA **Nov'10 to Feb'13**
Senior Software Engineer

- Played a key role in the initiation and advancement of Android, contributing to the transition and upgrade from Gingerbread to Ice Cream Sandwich versions on MSM8960 platforms.
- Successfully ported Android onto the IVI Hyundai Mobis device, a demo project featuring fast boot, dual display support, immediate rear camera support, and audio fast boot patches applied on Jellybean, later ported for KitKat Project.
- Diagnosed and resolved media framework-related issues during the system upgrade and integration process.
- Conducted the triage of system integration issues and managed the software release process effectively.
- Environment: C, C++, Android, Qualcomm MSM8960, MSM8996 and ADP8096 platforms, Git, Jira

Samsung India Software Center, India & South Korea **Oct'06 to Nov'10**
Senior Software Engineer

- Ported PTP & MTP protocols from Linux to VxWorks on the DTV MIPS core platform.
- Created Media User Interface and media applications (music, photo gallery, video) for Mp3 players and Projector platforms.
- Formulated a media framework for the Projector platform, integrating OpenMax IL.
- Utilized QT/QML, LibSDL, and GE UI frameworks for extensive UI and application development.
- Engineered an SDL-based UI simulator for Mp3 player development, compatible with both Linux and Win32.
- Designed and implemented 2D & 3D graphics for screen transitions on MP3 devices.
- Implemented Valgrind and GDB to monitor product performance and troubleshoot issues.
- Demonstrated strong knowledge of LINUX, including Kernel, Drivers, and Debugging
- Environment: C, C++, QT, SDL, OpenGL, OpenMax, Linux, VxWorks, Shell Script, Clear Case, gdb, Trace32, JTAG.