
CAREER SUMMARY:

Experienced Embedded Software Developer with over 6 years of comprehensive expertise in automotive software development, validation, and system integration. Proven track record in Model-Based Development (MBD), Chassis Control, Body Control Module (BCM), and Functional Safety across SDV and advanced engineering projects. Skilled in MATLAB/Simulink, Stateflow, NON-AUTOSAR/ AUTOSAR -compliant development, and embedded C for ASIL and QM systems aligned with ISO 26262 standards.

Demonstrated excellence in Requirement analysis, Model-Based Development (MBD), Auto Code Generation, MIL/SIL/HIL testing and CI/CD implementation using tools such as Jenkins, Git, JIRA, Code Beamer, and Robot Framework for production release software's. Adept at creating functional specifications, designing and validating software components, and driving defect resolution through robust test automation and agile processes. Strong collaboration skills across multi-disciplinary teams and suppliers, ensuring seamless integration and high-quality deliverables in alignment with ASPICE.

PROFESSIONAL EXPERIENCE:

Company: KPIT Technologies, INDIA

July 2023 – Jan 2025

Job Title: Senior Software Engineer

Key Duties:

- **Contributed to Chassis Development for SDV projects**, specializing in Chassis Controls for Advanced Engineering, Model-Based Development – Finite State Machine (FSM)/DT, Testing, and CI/CD activities.
- **Executed Software Unit & Component validation (MIL/SIL) using MATLAB environment** and performed Software Component validation on Matrix tool within Robot Framework for various chassis service components.
- **Knowledge on Auto-Code Generation** for Simulink/State flow models using Embedded coder.
- **Led defect analysis and bug tracking**, created defect analysis reports & ensuring efficient resolution and system optimization.
- Successfully rectified Polyspace and SonarQube errors in automotive software to ensure compliance with industry standards and improve code quality.
- **Collaborated with onsite coordinators and clients**, facilitating seamless communication and project alignment.
- **Oversaw end-to-end planning and execution** of Solution Engagement delivery lifecycles, ensuring timely and effective outcomes.
- Requirements management of **system-level requirements** into **software-level specifications** utilizing the JAMA application.
- **Managed Agile/Scrum processes**, driving efficiency and fostering a streamlined development workflow.
- **Possess extensive expertise in Git and Jira**, leveraging version control and issue tracking for optimal software development.

- **Hands-on experience with CI/CD pipelines**, understanding of YML files, troubleshooting and resolving related issues to maintain seamless integration and deployment.
- **Proficient in Code Beamer for requirement modification, test case importation, and execution**, ensuring seamless validation through the CI/CD pipeline.
- **Conducted Software-In-Loop (SIL) validation** using Robot Framework and Python, ensuring robust software component testing and verification.

Company: Tata consultancy Services India

June 2021–July 2023

Job Title: Developer

Key Duties:

- **Worked on multiple architectures**, conducting **end-to-end analysis of design and logic** based on requirements, ensuring compliance with project standards and guidelines before Model-Based Development.
- Developed Functional Specification documents **for TPMS and BMS features in Body Control Module (BCM)**, **improving clarity and ensuring adherence to functional requirements.**
- **Worked on both AUTOSAR and Non-AUTOSAR driven model-based development.**
- **Designed and developed unit models and integrated models** within the Body Control Module for Tire Pressure Monitoring System (TPMS) and Battery Management Systems.
- **Executed model-based development (MBD)** for both ASIL-compliant and Quality Management (QM) systems, ensuring adherence to ISO 26262 standards and functional safety goals.
- Developed and validated **Simulink/Stateflow models for safety-critical applications**, supporting ASIL levels and QM classifications.
- Collaborated with cross-functional teams to implement safety mechanisms and conduct safety analyses as part of the MBD lifecycle.
- **Implemented Software Components/unit models** in compliance with AUTOSAR, MAAB & MISRA guidelines, ensuring 100% model quality.
- **Implemented ISO 26262-compliant safety measures** for embedded automotive systems, ensuring ASIL-B compliance.
- **Performed unit testing and software component testing using Simulink Test Harness and signal builder.**
- Developed and executed vehicle-level test cases **Model in Loop (MIL) & Software in Loop (SIL) testing, resulting in 95% pass rate for system functionalities.**
- **Ensured precise design specifications** using VISIO, maintaining accuracy and consistency in development.
- **Error Analysis & Resolution:** Identified, analyzed, and resolved critical software vulnerabilities, enhancing system reliability and maintainability.
- **Managed multiple releases**, maintaining high-quality deliverables and ensuring defect-free artifacts for customer deployment.
- **Git & Version Control:** Managing repositories and efficiently pushing developed models to Git, ensuring seamless integration and collaboration across development teams.
- **JIRA & Issue Tracking:** Maintaining project progress by updating JIRA, tracking issues, and coordinating resolutions within Agile workflows to optimize development efficiency.

Company: Conneqt Business Solutions, INDIA

Nov 2018 – June 2021

Job Title: Engineer

Key Duties:

- Developed and validated **Simulink/Stateflow** models for Chassis and BCM functionalities, ensuring compliance with

MAAB guidelines and ISO 26262 standards.

- Performed **unit-level testing** using **Model-in-the-Loop (MIL)** techniques to verify model behavior against functional requirements and detect early-stage design issues.
- Integrated unit models into system-level architectures, supporting seamless communication across modules and reducing integration bottlenecks.
- Conducted **requirement traceability** and **design reviews** to ensure alignment with system specifications and safety-critical standards.
- Utilized **CAN** protocol for message configuration and validation within Chassis and BCM networks, ensuring robust in-vehicle communication.
- Collaborated with cross-functional teams to refine **Functional Specifications (FS)** and maintain consistency across the **Data Dictionary**.
- **Performed Internal Quality Assurance (IQA)** reviews to ensure assessment processes met organizational and regulatory standards, promoting consistency and fairness across development teams.
- **Conducted External Quality Assurance (EQA)** reviews to validate internal QA practices, ensuring alignment with industry benchmarks and continuous improvement initiatives.
- Managed version control and model updates using **Git** and tracked development progress and issue resolution through **JIRA** in Agile sprints.

TECHNICAL SKILLS:

| | |
|--|---|
| Vehicle Architecture | AUTOSAR, non-AUTOSAR |
| Model-Based Development | MATLAB-SIMULINK, STATEFLOW, M scripting |
| Test Case Creation, MIL, SIL. | Simulink Test Manager Toolbox, Signal Builder |
| Mandatory Checks | Model Advisory checks-MAAB, MISRA |
| Static Code Analysis | Polyspace |
| Requirement Design & Analysis | JAMA, Jenkins, JIRA |
| AutoCode Generation | Embedded Coder |
| Functional Specification and High-Level Documentation, Logical Partitioning. | MS Office, MS Access, Visio, Confluence |
| HIL Testing & Real-Time Simulation | dSPACE, Control Desk, INCA |
| Track & Release | Git, Atlassian Tools, SVN, Confluence, JAMA |
| Protocols | CAN, LIN & Ethernet |
| Systems development life-cycle | V-Model, Agile |

EDUCATION:

St. Mary's Group of Institutions, Guntur affiliated to JNTUK
Bachelor's degree | Electronics & Communication Engineering
Percentage: 70%

2013 - 2017

ACHIVEMENTS & AWARDS:

- Received the **Client Champion Award** for consistently providing outstanding support and building trusted partnerships with clients, contributing to project success and customer satisfaction.

- Received the “Star of the Sprint” award for pioneering the implementation of **Software-in-the-Loop (SIL)** testing using **Matrix framework**, marking a first for the team and significantly enhancing automated validation capabilities
- Achieved Best Team award by completing unexpected deliverables with Defect free artifacts accuracy and efficiency.

I affirm that all the information furnished in this resume is true and correct to the best of my knowledge and belief.

Applicant

(Mrs. Bhavyasri Koduru)