Rohit Kumar Rai

Software Test Engineer | Test Automation Engineer | Validation Engineer
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Professional Summary

As a **Senior Software Test Engineer** with over 7 years of hands-on experience in the automotive domain, I possess expertise in **ADAS**, **AUTOSAR**, and **BCM ECUs**, advanced diagnostics (UDS/ODIS), and high-speed automotive Ethernet (SOME/IP, DoIP). I ensure robust performance and compliance for leading OEMs and Tier 1 suppliers. I am an **ISTQB Certified Test Analyst** with a strong track record of aligning projects with critical automotive standards such as **Automotive SPICE (ASPICE)**, **ISO/SAE 21434** (cybersecurity), and **ISO 26262** (functional safety).I enjoy tackling complex challenges and continuously learning to improve automotive systems. I'm enthusiastic about exploring new **on-site opportunities** worldwide.

Technical Skills

- **System & ECU Validation:** ADAS Camera, BCM, BCM HIL setup, Intelligent Battery Sensor
- **Programming Languages:** C, Python, Bash, CAPL
- **Tools:** CANoe, CANalyzer, vTESTstudio, VT System, TRACE32, WinIDEA, MATLAB/Simulink
- **Protocols:** CAN, LIN, Ethernet, UDS, SOME/IP, DoIP, XCP, UART, SPI, I2C, OBD-II
- **Requirements Management & ALM:** IBM DOORS, PTC Integrity, Jira, Enterprise Architect
- **Version Control & CI/CD:** Git, GitHub, Jenkins
- **Flashing Tools:** ODIS, Renesas (E1 & E2), Diagalyser, ODX-PDX
- **Automotive Cybersecurity:** VKMS, SecOC, TLS, PKI, HSM, TARA, ISO/SAE 21434
- **Frameworks & Standards:** AUTOSAR, ASPICE, ISO 26262, V-Modal, Agile
- **Measurement Equipment:** Multimeter, Oscilloscope, Programmable Power Supply

Work Experience

Senior Software Test Engineer Nov 2022 – Present
Magna Electronics, Pune, India – Project: Camera-Based ADAS ECU (VW/Audi)

- Reduced manual testing effort by 90% by designing and implementing automated scripts using Vector CANoe and vTESTstudio.
- Designed and executed 300+ targeted test scenarios covering Automotive Ethernet, CAN/CAN FD, DoIP, and XCP protocols.
- Improved test coverage by 25% and early defect detection by 30% by leading a team of 6 in smoke and stability testing.
- Achieved 100% functional test coverage by mapping SRS to test cases using PTC Integrity and detailed software architecture analysis.
- Ensured test completeness by developing and executing architecture-driven test cases aligned with system-level validation goals.
- Accelerated defect resolution by establishing a robust workflow for defect tracking, prioritisation, and reporting, ensuring clear communication with developers and cross-functional teams.
- Gained hands-on real-time vehicle testing experience and enhanced cross-cultural collaboration skills through a **3-week international assignment** at **Magna office in Sailauf, Germany**.

Software Test Engineer May 2022 – Nov 2022
Marelli India Pvt. Ltd., Gurgaon – Project: Body Control Module for Citroën

- Validated 100% of Body Control Module (BCM) software components by conducting Software Qualification Testing (SWE.6) in accordance with SRS and interface specifications.
- Designed 100+ test cases with full traceability by analysing software requirements and applying systematic test engineering methods (regression, smoke, and sanity testing).
- Maintained requirement traceability and alignment using IBM Rational DOORS for all requirement changes and updates.
- Resolved 95% of critical defects efficiently by collaborating with cross-functional development teams, applying systematic root cause analysis, and tracking issues through Jira.

Software Test Engineer Sep 2021 – May 2022
Interface Microsystems, Gurgaon – Project: Intelligent Battery Sensor for Mahindra

- Automated 200+ test cases, reducing manual test effort by 35% and increasing test coverage by 20% through CAPL scripting and vTESTstudio.
- Validated diagnostic communication reliability by simulating UDS, CAN, and LIN protocols using Vector CANoe and CANalyzer.
- Ensured 100% requirement-to-test traceability by aligning test cases with ASPICE-compliant workflows using PTC Integrity.

Test Engineer Jun 2018 – Sep 2021
Exicom-Tele Systems Ltd., Gurgaon – Project: 2kW EV Charger for Mahindra

- Improved EV charger reliability by 30% through rigorous testing, root cause analysis, and validation of 2kW units for Mahindra three-wheelers using the CAN protocol.
- Ensured compliance with automotive safety and communication standards by validating 2kW EV chargers through structured black-box testing methodologies.
- Reduced field failure rates by 25% by identifying design flaws through FMEA and implementing corrective actions during power electronics testing.

Education

Bachelor of Technology in Electrical Engineering 2014 – 2018
GLA University, Mathura, India
Grade: A (Honours)

Certifications & Recognition

- MATLAB Onramp (Jun 2025) , Simulink Onramp (Jul 2025) , Stateflow Onramp (Jul 2025)
- Automotive CyberSecurity by Udemy (Apr 2025)
- ISTQB Advanced Test Analyst (Feb 2025)
- ISTQB Foundation Level Tester (Apr 2023)
- Automotive SPICE PAM Version 3.1 (VDA Scope) (Nov 2021)

Languages & Interests

- **Languages:** English (C2), Hindi, Bhojpuri
- **Interests:** Morning hikes, reading self-help books

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Date: 21 July 2025