

# VEDHAVARSHINI J

Automotive Software Verification Engineer | Functional Safety |  
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Website: <https://vedhavars.github.io/portfolio/>



## SUMMARY

Automotive Software Verification Engineer with 3+ years of experience in safety-critical embedded systems. Strong in C-based unit and integration testing, white-box validation, and structural coverage analysis (Statement, Branch, MC/DC) within ISO 26262 ASIL-B environments. Experienced in reverse engineering legacy code, CI-integrated validation, and safety-focused documentation.

## TECHNICAL SKILLS

**Programming:** C, C++(basic), Python (basic)

**Verification & Validation:** Unit Testing, Integration Testing, White-Box Testing, Boundary Value Analysis, Root Cause Analysis.

**Coverage & Safety:** Statement Coverage, Branch Coverage, MC/DC Coverage, ISO 26262 (ASIL-B Exposure), Safety Deviation Documentation

**Process:** Agile (Scrum), Requirement Traceability, Defect Lifecycle Management, CI Pipeline Validation (Support)

**Tools:** Cantata, JIRA, GitLab, System Weaver, Enterprise Architect

## PROFESSIONAL EXPERIENCE

**Senior Engineer – Software Development in Test (SDET)** | Tata Elxsi | Jul 2023 – Nov 2025

- Designed and implemented C-based unit and integration tests using Cantata.
- Verified a 16-component GNSS Radar Safety Measurement Engine in an ISO 26262 environment.
- Achieved 100% structural coverage (Statement, Branch, MC/DC) for 12 components
- Performed white-box testing by analyzing internal decision logic
- Reverse engineered legacy source code to derive functional test cases.
- Maintained requirement-to-test traceability in System Weaver.
- Raised and tracked defects through full lifecycle in JIRA.
- Integrated automated test suites into CI pipeline for build Validation.

**Engineer – Embedded Software & Validation** | Tata Elxsi | Jul 2022 – Jul 2023

- Supported development of MISRA-compliant C modules.
- Assisted in debugging using Trace32. And documented requirements, test strategies, and templates, improving review efficiency by 30%.
- Prepared validation documentation and SDLC artifacts.

## EDUCATION

B.E. Electronics and Communication Engineering — K. Ramakrishnan College of Technology, Trichy (2018–2022)

## CERTIFICATIONS

- Japanese Language Proficiency - JLPT (N5).

## AWARDS

- Extra-mile Award
- Ray of Hope Award