SHRADDHA YAMYAR

HARDWARE DEVELOPER

☎ +91 9309962042   📍 Hyderabad, India   ✉ yshraddha92@gmail.com

ABOUT ME

Embedded Hardware Design Engineer with 3+ years of experience, specializing in automotive safety systems. Skilled in circuit design, PCB development, and hardware validation, with expertise in analog & digital design, microcontroller interfacing (CAN, LIN, SPI, I²C), and signal conditioning. Interested in functional safety, embedded system reliability, and design optimization, with a solid understanding of system requirement analysis, hardware-software integration, hardware design calculation, circuit simulation, PCB layout design, and testing methodologies.

WORK EXPERIENCE

ZF - LIFETEC (04/2022 - Current)

Senior Hardware Developer

1. Core JLR EMA(Electrified Modular Architecture)

- Served as the primary hardware developer and individual contributor for the Active Seatbelt Retractor ECU project.
- Designed the Active Retractor ECU using the NXP S32K microcontroller, delivering complete schematics and PCB layouts in Altium Designer for secure integration.
- Developed and validated the CAN communication circuit to ensure high-speed, reliable data transfer in compliance with JLR requirements.
- Implemented design modifications and calculations, improving accuracy through advanced validation techniques, current flow analysis, derating methods, and automated result documentation.
- Created and validated schematics and PCB layouts in Altium Designer, optimized for EMC/EMI compliance and improved signal integrity.
- Successfully completed JLR Grade Review and ASPICE reviews, achieving compliance with ASIL-B safety standards.
- Designed and validated oscillator circuits as part of the review and validation processes.
- Performed capacitance monitoring and evaluation, optimizing capacitor values for accuracy, efficiency, and correction of design deviations.
- Enhanced MCU internal ASIC performance by strengthening overall hardware design robustness and efficiency.

2. Core Electronic - Locking

- Authored Hardware Qualification Test Specifications at the ECU level, validating hardware requirements and ensuring all circuit functions were verified through Requirement-Based Specifications (RBS).
- Developed Hardware Integration Test Specifications, including ECU electrical tests and thermal verification procedures, to confirm hardware design robustness.
- Designed step-by-step test procedures for ECU-level electrical and environmental stress testing, ensuring compliance with automotive safety standards.
- Collaborated with cross-functional teams to align hardware validation with system requirements, strengthening test coverage and traceability.

3. Component Engineering

- Performed Bill of Materials (BOM) analysis to assess component suitability and availability for Audi PPC projects.
- Conducted second-source component identification to mitigate supply chain risks and maintain design continuity.
- Generated electronic part numbers and managed data in PLM Windchill, ensuring accuracy and consistency across design documents.
- Created and shared annotated BOMs with EMS suppliers, streamlining procurement and manufacturing workflows.

4. Core Modular ECU

- Executed hardware integration testing to validate hardware design performance and ensure compliance with design requirements.
- Gained hands-on exposure to new ECU functionalities by analyzing real-time behavior and identifying areas for improvement.
- Provided critical feedback and design recommendations to the hardware development team, contributing to the optimization of ECU architecture and overall functionality.
- Ensured comprehensive test coverage and traceability, supporting the smooth transition of the ECU from prototype to production readiness.

5. Other Projects

VW GenX & Scania Hero (Application Projects for HOD Gen2)

- Contributed to application-based development for HOD Gen2 ECU programs.
- Executed the complete test build process, including branching test specifications, preparing validation reports, and ensuring full traceability.
- Created and managed test sessions in ALM Windchill, streamlining execution and documentation of hardware validation activities.
- Strengthened expertise in requirement traceability, test planning, and structured validation workflows for automotive applications.

CERTIFICATIONS

- Programming for Everybody (Python) – University of Michigan (Coursera)
- Master Embedded Driver Development – Udemy
- Embedded C Programming – Udemy
- Simulink for Mechanical & Electrical Engineers – Skill-Lync
- Garnishing Talent Program – Eaton (2018–19)
- Altium Tool Training & Analog Design – In-house

AWARDS

- 2× ZF Shakti Award Winner
- Multiple Spot Awards – ZF Group

EXTRA CURRICULAR

- **Content Creator for ZF-LIFETEC Global**: Authored "ZOOM Stories" highlighting achievements from the India location to strengthen global community engagement.
- **Speaker for Technical Knowledge Sessions**: Delivered technical presentations to colleagues and cross-functional teams, fostering knowledge sharing and continuous learning.
- **Organizer for Team Events**: Led the planning and execution of team outings and inauguration events, enhancing collaboration and team cohesion.

EDUCATION

MBA in Finance (Pursuing)
Savitribai Phule Pune University

B.TECH (Elect &Tel Engg - 2021)
Savitribai Phule Pune University

SKILL

- Embedded HW design & Development
- PCB Design & Layout
- Circuit Simulation & calculation
- Testing & Validation

CONTACTS

- +91 9309962042
- https://shraddhayamyar.com
- hello@shraddhayamyar.com