

MALAV DALAL

Novi, MI

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SUMMARY

Professional Leading-Edge Engineer and novice project manager with current experience in Electric Vehicle Functional Safety, Cyber Security, Embedded Controls & Validation, Full Vehicle/System Integration. Skills include analytical thinking, application of GenAI and creative problem solving. Able to apply quality standards to advanced mobility industry to improve experience for organizations and build upon reputation of company. Personally invest in use of intelligent, clean and green technology.

SKILLS & TOOLS

Hardware: Bosch Electronic Throttle (ETC), Vector® CANCASE XL®, USB LINK, MDI, Diagnostic Link, Aurix, Pi-Innovo, Ethernet

Software: CANape, CANoe, CANalyzer, MotoTune, MotoHawk, Raptor-Cal, MATLAB®, Simulink, SolidWorks, ETAS INCA,

PCAN, ATI VISION, Pi-Snoop, MS-Project, GT-Suite, PostgreSQL, Databricks, git, CANDELA, PYTHON, C++, C, javascript

Product Management: IBM DOORS®, MS-Excel VBA, MS-SharePoint®, DOORS NEXT GEN, JIRA, Confluence, Siemens Polarion, Ansys Medini Analyze, Vector PREE-Vision, JAMA, Confluence, IQ-RM, Enco SOX, Draw.IO, Plato, CodeBeamer, MagicDraw

Standards: SAE J1939, J1962, J2534/2, ISO 26262, IEC 61508, Ethernet 802.1, SAE J1850, AUTOSAR, ISO 25119, ISO 18497, ISO 18349, UL 1998, UL 991, UL 5500, ISO 21448, ISO 21434, ISO 8800

Technical: 6σ, FMEA, FMEDA, FTA, ASIL, HARA, TARA, DMAIC, 5why, 8D, Data Mining, Data Analytics, V-cycle, STPA, DFA

EDUCATION

Master of Engineering in Mechanical Engineering, University of Texas at Arlington, Arlington, Texas

Bachelor of Engineering in Automobile Engineering, Gujarat Technological University, India

PROFESSIONAL TRAINNING AND CERTIFICATIONS

ISO 26262 - Functional Safety Engineer Certification - TUV-SUD [ID: 2012#313609097] - KVa May 2020

Advanced level training for the Automotive Functional Safety to ensure the development using ISO 26262:2018 version.

ISO 21448 – SOTIF Autonomy Safety Professional Certification – UL Jan 2024

Professional level training for the Autonomous vehicle - Safety of the Intended Functionality (SOTIF) using ISO 21448.

WORK EXPERIENCE

Sr. Systems Engineer, Safety | Polaris Industries Inc, Novi, MI

May.2023 – Present

- Responsible for Generative AI driven E/E Safety activities for Off Road Vehicles (ATV, SxS, Youth ATV) and On Road Vehicle (Indian Motorcycles, Slingshot Reverse Trike) for all vehicle systems including motorcycle ADAS, Propulsion, Powertrain, Electric Drive Units, Next Generation Interfaces and Chassis systems including project management using ISO 21448, ISO 26262, ISO 13849 standard.
- Piloting GenAI application in Q3-2025 has brought 30% improved product delivery with accurate effectiveness.
- Developed Hazard Analysis and Risk Assessment (HARA), Safety Life Cycle Plan, Functional Safety Concepts, Technical Safety Concepts, DIA negotiations, System architectures. Also, handled safety recalls for the legacy products.
- Lead Safety Culture for the patent pending driveline systems to improve performance, efficiency and NVH of the newer vehicle development. Thorough system safety design(2024) led to obtain Zero rework and commissioned after PV build.
- Created Safety Software Architecture for controller in accordance with S-FMEA and developed & implemented SW Safety Requirements and Integrations.
- Contributed to Program DVPR with FuSa Verification and Validation activities at Software, Hardware, Integration, System and Vehicle level applications with HIL, SIL, MIL, LabCar and Vehicle test platforms.
- Implementing Embedded Cybersecurity to broaden the Safety and Security horizon for FOTA and Connectivity apps.

Sr. Functional Safety Engineer | Monarch Tractors, Livermore, CA

Aug.2022 – Feb.2023

- Responsible for functional safety activity for the Driver Optional AI driven Autonomous System, HV vehicle systems.
- Performed Hazards analysis and Requirements Management for inhouse and customer projects using ISO 26262, ISO 25119. Autonomous farm equipment using ISO 18497, High voltage E/E systems using ISO 16230 for farm utility tractors.
- Performed AI Safety Analysis with real world scenario development.

Systems Engineer, Functional Safety | Rivian Automotive LLC, Palo Alto, CA**Feb.2020 – Aug. 2022**

- Support to System Architects for Smart and Conventional Power Distribution Unit and Communication BUS using ISO 26262 standard for Ethernet, CAN, CAN-FD, LIN communication by developing internal standards for safety.
- Functional Safety Owner/Champion for Firmware OTA, Power Modes, Driver Presence, OTA robustness.
- Hazard Analysis and Risk Assessment (HARA), Safety Life Cycle Management for connected vehicle proprietary.
- Participated in ASIL determination for the Platform software for ECUs.
- Testing and Validation of Vehicle systems using various methods driven by experience and industry standards.
- Validation Support to Vehicle Build at Production facility for flashing, diagnostics and debugging of vehicle and systems.
- Validation and Verification analytics on various fleets using SQL and Python scripts on local and Databricks clusters.

Powertrain Systems Engineer – Functional Safety | Karma Automotive LLC, Irvine, CA**May. 2019 – Feb. 2020**

- Worked on Data Mining and Data Analytics of vehicle data.
- Owned Vehicle and System level Functional Safety work products for Powertrain, Torque Vectoring
- Responsible and owner of all Functional Safety activity in Karma 2.0 and 3.0 powertrain. (4 variants) with HW analysis.
- Auditor for Proprietary Battery and BMS system, ADAS, Chassis, Cabin Functional Safety development and integration.
- Auditor of Unit Level, Model-in-Loop, System Level, HW-in-Loop Testing.
- Performed and Supported Hiring activities, Benchmarking, Budget proposal, frugality for BOM cost reduction in R&D.
- Performed Simulations in GT-Suite and MATLAB for multiple variants of vehicle data to conclude statistics of UDDS cycle.

Powertrain EE Validation & System Integration-INTERN | Daimler Trucks North America, OR**Oct. 2018 – Mar. 2019**

- Data Mining and Data Analysis of various CAN buses for Dynamic Ride Height, Engine Brake Management, Gear Shifting Events & various Intelligent systems. Participated in Hackathon for Mechatronics department in Team of 15 from DTNA.
- Test Specification creation and improvements using various IEC and ISO standards.
- Implementation of ISO 26262 standard for Commercial Vehicles Testing and Validation departments in DTNA.
- Benchmarking of Daimler & Detroit Diesel products with market competitors using Reverse Engineering.
- Extensive support for Product Validation team in Software Release Workshops.

AFFILIATIONS AND ACTIVITIES

- Certified Professional Rock Climber (experience 20+ years).
- Licensed Motorcycle Driver (experience 17+ years).