

AKSHAY GAJANAN PEDHIWAL

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EDUCATION

Bachelor of Engineering, (Electronics & Telecommunication), July 2008 – June 2012

Vishwakarma Institute of Information Technology (University of Pune)

Grade(s): 64.07% (First Class)

Certification

ISO26262 Functional Safety Certified Professional: Certified Level 1: TUV SUD South Asia

WORK EXPERIENCE

**Consultant Expert Hardware Design & Development – Volvo Group
(Deputed from Amaris Consultancy), February 2023 – Present**

Lead Engineer – Hardware Design, Faurecia, March 2020 – February 2023

Senior Project Engineer, Varroc Lighting System, Oct 2015 – March 2020

- 1 year of experience of working at Varroc Lighting System, Czech Republic

Member Technical Staff, HCL Technologies, May 2014 – Oct 2015

- 6 months of experience of working at Marquardt GmbH

Embedded Design Engineer, Agiliad Technologies Pvt Limited, June 2012 – May 2014

Project Experience

- **Title** Smart Phone Station
Domain Automotive
Description This includes a 12V system for IVI system. The module has communication protocols like Bluetooth, 2x20W Audio Amplifier, Mic Input, SWC, CAN, Tuner, Power Button (LED & Haptic Switch)
Role & Responsibility Lead and Managing Team and Deliverables, Design Review, Worst Case Analysis of Circuit Review, DFMEA, EMI-EMC testing as per customer requirement.
Team Size 5
- **Title** UXM IVI
Domain Automotive
Description This includes a 12V system for IVI (In Vehicle Infotainment) system. The module has communication protocols like USB, Wifi, Bluetooth, Apple Car Play, TFT Screen.
Role & Responsibility Worst Case Analysis of Circuit, Simulation in LT Spice.
Team Size 2
- **Title** ADAS – Surround View
Domain Automotive
Description This includes a 12V system for ADAS Surround View system. The module has

communication protocols like Serializer, De-Serializer, Camera, Wifi, Bluetooth.

Role & Responsibility	Worst Case Analysis of Circuit, Simulation in LT Spice.
Team Size	2
• Title	Full LED Headlamp
Domain	Automotive
Description	This includes a 12V system for automotive exterior LED headlamp for HB, LB, HB Booster, DRL/POS, & FTI functionality. Work includes design, testing, debugging of module, Simulation & design review with Client. The module is based on DC-DC converter for LED illumination. Analysis of these modules as per the client requirement for EMI-EMC, Pulse input and Thermal and power dissipation.
Role & Responsibility	Design and Analysis of the circuit, Worst Case Analysis of Circuit in Mathcad, Simulation in LT Spice, EMI-EMC testing as per customer requirement.
Team Size	3
• Title	Automotive Headlamp
Domain	Automotive
Description	This includes a 12V system for automotive exterior LED headlamp for DRL-POS functionality. Work includes design, testing of module, Simulation & design review with Client. The module is based on linear converter design for LED illumination.
Role & Responsibility	Design and Analysis of the circuit, Worst Case Analysis of Circuit in Mathcad, Simulation in LT Spice, EMI-EMC testing as per customer requirement.
Team Size	2
• Title	Automotive Head lamp
Domain	Automotive
Description	This includes a 12V system for automotive exterior LED headlamp for FTI functionality which was Functional safety ISO26262 compliant. Work includes design, testing, debugging of module, Simulation, and design review with Client. The module is based on DC-DC converter design for LED illumination. In addition, provided an Adaptive Dummy Load to fulfill customer requirement for current values at individual voltage ranging from 9-16V. Analysis of these modules as per the client requirement for EMI-EMC, Pulse input and Thermal and power dissipation.
Role & Responsibility	Design and Analysis of the circuit, Worst Case Analysis of Circuit in Mathcad, Simulation in LT Spice, EMI-EMC testing as per customer requirement.
Team Size	3
• Title	Automotive Headlamp and Rear lamp
Domain	Automotive
Description	This includes a 12V system for automotive exterior LED headlamp for functionality like High Beam, Low Beam, DRL, POS, STOP and Tail function which was Functional safety ISO26262 compliant. Work includes design, testing, debugging of module, Simulation & design review with Client. The module is based on DC- DC converter design for LED illumination and having micro-controller interfaced to vehicle through CAN communication. Analysis of these modules as per the client requirement for EMI-EMC, Pulse input and Thermal and power dissipation.
Role &	

Responsibility	Design and Analysis of the circuit, Simulation in LT Spice, EMI-EMC testing as per customer requirement.
Team Size	4
• Title	Switch Banks
Domain	Automotive
Description	This includes a 24V system wherein there are various push buttons for various functionalities related to automotive cabin design. Work includes analysis, testing, debugging of modules, simulation and Preliminary design review with Client. The modules are based on Analog and mixed signal design and used in automobiles. Analysis of these modules needed to be compatible as per the client requirement for EMI-EMC, Pulse input and Thermal and power dissipation.
Role &	Visited to Germany (client location) for debugging and analysis of various technical issues.
Responsibility	Design Analysis for different modules, simulation in LT Spice, Testing for various failure conditions, Thermal analysis through Thermal Cam, Temperature profiling.
Team Size	2
• Title	Worst Case analysis for various automotive design projects
Domain	Automotive
Description	Worst case analysis and simulations for the provided circuitry.
Role &	
Responsibility	Worst case calculation and analysis, simulation in LT Spice, Report generation based on standard template, Resource Management, Project Co-ordination
Team Size	1
• Title	Steering Wheel Switches
Domain	Automotive
Description	This project was for design of steering wheel switches for various functionalities related to SWS. Work included designing the circuit for different switches combination as per the client requirement.
Role &	
Responsibility	Designing the circuit, Mapping of circuit in PADS Logic, Worst case calculation for circuit, preparing the resistor combination for different switches requirement.
Team Size	1

EXTRA / CO-CURRICULAR ACTIVITIES

- Won first prize in the Paper Presentation at National Conference for Students in Electrical and Electronics Engineering-2012 organized by IEEE Student Branch.
- Completed an Internship at Cosmic Ray Lab (CRL), TIFR (Ooty, India) at T.I.F.R (Tata Institute of Fundamental Research), Ooty in CRL (Cosmic Ray Laboratory), studied electronic system working on GRAPES-3 experiment setup, basically worked on High Speed Event Counter experiment.
- JOINT SECRETARY of national level event sponsored by IEEE.

PERSONAL DETAILS

Date of Birth	June 3, 1991
Languages Known	English, Hindi, Marathi, Marwari
Hobbies/Interests	Reading, Listening to Music (Instrumental/Vocal) and Outdoor Sports (Badminton)