K PERIYASWAMY

CAE Engineer

RNTBCI (Renault Nissan Technology & Business Centre India)

PROFESSIONAL OVERVIEW

Results-driven professional with **3+** years of experience as a Vehicle Crash Analyst, specializing in component integration and regulatory compliance. Skilled in European, Indian, and American regulations including UNECE and FMVSS, with a proven track record of delivering comprehensive compliance reports. Experienced in full-vehicle crash testing and physical correlation studies for LMV and LCV vehicles. Utilized **3D software** to design and test vehicle components, ensuring compliance with standards, DFMA and improving product quality.

TECHNICAL CORE SKILLS		
Design & Simulation		
	• Dynamic test simulations report for seating components. • Dynamic test simulations report for interior belt equipment's. • 3D Design and Development of existing components with DFMA.	
Crash		
	• Crashworthiness and Impact simulations (Explicit). • 3D CAD, FE Model build & Full Vehicle integration for Crash Correlation. • Configurations setup for Crash simulations. • Axles and seating systems 3D & FEA integration for Crash/NVH simulations. • Seating and dummy positioning for required assessments. • Contact parameter optimization using collective data analysis approach.	
Preprocessing		
	• Ability to mesh and integrate seats with required positioning for Dummy based on calculations. • Ability to mesh and integrate all mechanical components with specific to test configurations. • Ability to Design & Model 3D CAD, mesh and Assemble car components like Engine, Trims, BIW, etc.	

WORK EXPERIENCE — DESIGNATION

Renault Nissan Technology and Business Centre India, Mahindra City, Chennai.

2022 - 2025

2023 – Present*

Engineer

- Delivered 15+ structural integrity simulation reports aligned with UNECE & FMVSS regulations for seating and belt components including FMVSS 207,208,214, UN R14, R17, R21, and VTC.
- Contributed to 30+ full vehicle integration & First Output compliance reports of ICE, EV, LCV, and luxury platforms, focusing on NCAP assessments, BIOCAT and **crashworthiness**.
- Collaborated with clients across five countries **(France, Romania, Korea, India, Brazil)**, effectively navigating multicultural environments and overcoming language barriers.
- Adapted to cross-functional collaboration involving metier studies for contact management, design development and validation.
- Led initiatives in resource optimization, quality enhancement, and lead time reduction to maintain competitive standards against leading global markets.
- Led a team of 4 contributing to **30+** projects in the integration of seats, axles, Airbag integration, Human dummy positioning, Barrier positioning for NCAP assessments, ensuring alignment with safety and regulatory standards.
- Managed supplier seat adaptation to Renault specifications, addressing positional requirements based on diverse dummy sizes and test configurations.

2022 - 2023	• Contributed to 20+ crash assembly integration, contact definition, and material card definition on vehicle focusing on engine and related components, including radiators, exhaust systems, oil tanks, wiring harnesses, pedals, bumpers, and headlights. • Built a strong foundation in preprocessing in **ANSA** on meshing techniques, working with 1D, 2D, and 3D solid elements using mid-surface extraction, outer mesh generation, batch meshing, and Tetra/ Hexa solid meshing for various vehicle components.	**PGET Post Graduate Engineer Trainee.**

TECHNICAL TOOL

Technical Tool Expertise

* ANSA (Beta CAE)
* Pamcrash
* Meta Post
* Abaqus (DS)
* LS-Dyna
* Math works MATLAB
* PTC Creo
* CATIA ENOVIA V5 (3D Basic)
* Autodesk Auto-CAD 2020+.

ACADEMIC BASIC INFORMATION — PERCENTAGE OBTAINED (MAX - 100%)

2020-2022	Master of Technology in Engineering design	90.02 %
	Amrita Vishwa Vidyapeetham university, Coimbatore.	
2016-2020	Bachelor of Technology in Mechanical Engineering	83.20 %
	Amrita Vishwa Vidyapeetham, Kollam	
2014-2016	Grade 12 – Indian School certificate	87.00 %
	Kodaikanal Public School (PCM + Biology)	
2013-2014	Grade 10 – Indian Certificate of secondary education	72.80 %
	Kodaikanal Public School	

PUBLICATIONS

2021-2022	Numerical Modelling of tribological phenomenon in wind turbine brake pads.	Sage Journals
	Team Size: 1 Guide + 1 Student (Individual) Description: Mathematical modelling and Numerical analysis of wear in wind turbine brake pads using redefined novel Archard's wear coefficient.	Journal of Engineering Tribology
2020-2021	Surface integrity assessment in drilling of Inconel 718 using laser texture tools.	Emerald Publications
	Team Size: 1 Guide + 2 Students Description: Analysis of laser textured tungsten carbide tool for enhancing the drilling operation in Inconel 718 with solid lubricant.	Industrial Lubrication & Tribology

AWARDS & RECOGNITION

Awards	Champions Crew Award for learn and deliver with 100% quality.	2025
Awards	Champions Crew Award for organizing the best team outing.	2024
Sports Category	South Zone Inter-University volleyball tournament.	2018
Sports Category	ASISC state runner up in volleyball Tamil Nadu region.	2014