Name: Rajeev Chandrashekhara Kurthakoti
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Total Experience: 13+ years
Relevant Experience :13 years

Professional Profile

A highly experienced Automotive Engineering professional who specializes in Computer Aided Engineering (CAE), specifically, overseeing research in automotive safety and crash test analysis. With nearly 13 years of practical experience and a master's degree in Automotive Engineering is quick to familiarize with industry developments and adheres to regulatory requirements.   Demonstrates a logical, methodical and analytical approach to solving complex problems and issues, responding to queries as specified. Consistently delivers projects efficiently and effectively with above satisfactory results from project start, monitoring, completion and closure with appropriate reporting. Passionate about continuously applying best practice methods to thorough investigation, utilising the relevant tools, as appropriate. Possesses excellent interpersonal and communication skills with the ability to develop and maintain mutually beneficial working relationships.
LinkedIn profile: https://www.linkedin.com/in/rajeev-kurthakoti-24659825/

Key Skills

- Automotive Engineering
- Computer Aided Engineering (CAE)
- Automotive safety
- Crash test data analysis

- Methodical and logical
- FEA and CAD software
- Manufacturing engineering
- Software skills – Python, XML and C

Employment History

Feb 2018 to Current – Freelancing for Impact/Crash Analysis FEM

Previous Employment
Mercedes Benz Research and Development India Pvt. Ltd., as a **Domain Expert** from July 2011 to January 2018

Typical Projects Executed:

Advanced Engineering for all new electric vehicle architecture crash simulations
- Competitor benchmarking, establishment of crash load path (for side crash) in two proposed concepts.
- Study of Initial design data and building of the Finite Element model as per Daimler guidelines.
- Full Vehicle Integration including connection of various vehicle subsystems in Ansa.
- Setup side and roof crash simulations in Ls-Dyna for EuroNCAP, IIHS, USNCAP, FMVSS 214 (static and dynamic), FMVSS216a, ECE R-95.
- Measurement of various structural performance criterions.
- Post-processing using Animator, Midas viewer and report generation with Microsoft power point
- Discussion with cross-functional (Design, NVH, Strength, Battery systems) teams to provide a complete solution to the project team in Germany.

Main Contribution: Integration of battery module and associated systems. Key structural targets (max. sill deformation, crush resistance, survival space) achieved.

Crash Test Data Analysis of Mercedes Benz Cars
- Test data conversion from the raw format to tangible graphs and injury values using tools like DIAdem, X-Crash.
- Crash test Film analysis using MoveXact to analyze crash test videos.
- Competitor benchmarking, and conversion of certification and rating test to Daimler internal format.

Pre-Development of next generation rear wheel drive platform lead car till first quality gate in the Mercedes Development System

- Send queries on CAE activities and discuss project timing. Study of Design data and building of the Finite Element model as per Daimler guidelines.
- Full Vehicle Integration including connection of various vehicle subsystems in Ansa
- Setup, Simulation of side crash and roof crush in Ls-Dyna for EuroNCAP, IIHS, USNCAP, FMVSS 214 (static and dynamic), FMVSS216a, ECE R-95
- Measurement of various structural performance criteria for side crash and roof crush.
- Interacting with cross various cross functional team members working on vehicle NVH/Stiffness, Component Designers and manufacturing engineers.
- Post-processing using Animator, Midas viewer and report generation with Microsoft power point

Main Contribution: Countermeasures suggested for the sill and door assemblies implemented in the vehicle currently. Key structural targets (max. sill deformation, survival space) achieved.

Innovative High Strength Aluminum concepts for next generation roadster

- Study of existing all aluminum BIW, closures and identification of parts which can be modified to save weight and hence cost.
- Component level simulation for design synthesis as well as co-relation of components test with CAE simulations.
- Study of Concept design data and building of the Finite Element model as per Daimler guidelines.
- Full Vehicle Integration including connection of various vehicle subsystems in Medina and Ansa.
- Setup Front, Side and Rear crash simulations in Ls-Dyna for EuroNCAP, ECE, IIHS, USNCAP, FMVSS and Daimler internal regulations.
- Measurement of various structural performance criteria.
- Post-processing using Animator, Midas viewer and report generation with Microsoft power point.
- Interacting with cross various cross functional team members working on vehicle NVH/Stiffness, Component Designers and manufacturing engineers.

Main Contribution: Innovative new sill, door beam and light weight A-pillar assembly developed and prototyped.

Development of all new luxury coupe (currently in market) from digital prototype to design freeze
- Evaluation of a car for low speed bumper FMVSS 581, IIHS, RCAR as well as high speed rear crash load cases FMVSS301 and Daimler internal regulations.
- Sub-assembly level simulation as well as test co-relation of the rear longitudinal rail assembly.
- Optimization of the rear end vehicle of the structure involving reduction various of joining elements (weld and adhesives), part optimization.
- Established the best practices for collaboration with program team in Germany.

Highlight: Part of an award winning project team which set a benchmark for collaborative and cross functional engineering.

Previous Employment

- Associated with **Allegis Engineering Services India** Pvt. Ltd., Bangalore from June 2008 – July 2011
- Associated with **Altair Engineering India** Pvt. Ltd., Bangalore from October 2004 – June 2008
- Associated with **Aeronautical Development Agency** (ADA), Bangalore from Feb 2003 - Aug 2003

Projects Executed:

Pilot project for pedestrian Safety Simulation as per ACEA/Euro phase 1
- Study of the Finite Element model sent by the customer.
- Incorporating changes as suggested by the customer which includes selection of material models.
- Identification of target points in the 1/3 (for head impact) region as per ACEA/Euro phase 1 guidelines.
- Deck setup using ANSA as per ACEA/Euro phase 1 regulations.
- Post-processing using Hyperview/Metapost and report generation with Microsoft power point

Tools Used: ANSA, Abaqus/Explicit, Metapost, Hyperview

Vehicle Frontal Crash as per FMVSS 208 and IIHS
- Send queries on CAE build plan and discuss program timing .Study of Design data and building of the Finite Element model as per customer guidelines.
- Full Vehicle Integration including connection of various vehicle subsystems in Ansa.
- Setup Frontal crash and submit run in Ls-Dyna.
- Measurement of various structural performance criterions.
- Post-processing using Ls-Post and report generation with Microsoft power point

Tools Used: Ansa, Hypermesh, Ls-Dyna, Ls-Post

Body Structure simulations of SUV programs to meet regulations such as FMVSS 207, FMVSS210, FMVSS225, FMVSS202a, ECE17 at FITSI, Chennai
Description:
- Study of DESIGN data and building of the Finite Element model as per customer guidelines.
- Deck setup using Hypermesh as per FMVSS guidelines and Analysis using Ls-Dyna/Abaqus
- Post-processing using Hyperview and report generation with Microsoft power point.
- Countermeasure proposal as well as interaction with the design team to achieve design for assembly target.

Tools Used: Hypermesh, Ls-Dyna, Hyperview, Abaqus/Standard

Head Impact Simulation as per FMVSS 201(U) at GMTCI, Bangalore
Description: To perform the interior head impact analysis as per FMVSS 201(u) – targets identified include BP3, URSR1, URSR2 and URSR3
- Study of Design data and building of the Finite Element model as per general motors gudelines.
- Deck setup using Hypermesh/Primer as per FMVSS 201(u) and Analysis using Ls-Dyna.
- Post-processing and report generation using Hyperview
Tools Used: Hypermesh/Primer, Ls-Dyna, Hyperview, Ls Pre-Post

Educational Qualification

- M.Sc in Automotive Engineering, **M S Ramaiah School of Advanced Studies, Coventry University Center**, Bangalore, India – 2004 (With Merit)

- B.E in Mechanical Engineering, Bangalore University- 2001 (Average 61%)
- Class XII – Karnataka Pre University Board – 64%
- CassX – Central Board for Secondary Education Kendriya Vidyalaya – 65%

Language Proficiency
English – Proficient/Fluent (Spoken, Written)
German – Beginner (Spoken)