

# ATHARV M

Mechanical CAE Engineer

## PROFILE SUMMARY

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Experienced and results-driven CAE/FEA Engineer with a proven track record of optimizing designs through structural analysis and simulation. Skilled in FEA modeling, Morphing and analysis using ANSA, and LS-DYNA. Adapt at collaborating with cross-functional teams to enhance product performance, durability, and safety. Strong analytical and problem-solving skills with a passion for engineering innovation and efficiency. Collaborative experience as a technical consultant with multiple MNCs.

## EDUCATION

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Bachelor of Engineering (Mechanical Eng.): **8.78 CGPA** July 2022  
Higher Secondary Education (12th): **73.69 %**  
Secondary Education (10<sup>th</sup>): **92 %**

## RELEVANT COURSEWORK AND SKILLS

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Complex Meshing | Morphing | Design of Experiments | Ansa Automation | Ansa Scripting | Crash Model Building | Ls-Dyna Runs | Animator | Design optimization | Data Analytics | Technical report presentations | Collaboration with design and other CAE teams | Writer |

## PROFESSIONAL EXPERIENCE: (3 Years)

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**Mercedes Benz Research and Development India – Technical Consultant.** May 2023– Present

- Complete Model building and Analysis for Crashworthiness of vehicle. (FMVSS, Global NCAP Standards)
- Collaborative work with Design, NVH, Durability teams for design improvement.
- Exceeded in Morphing and FE design change based on simulation results results.
- Created Automation for the Bolt creations and Crash box Ls-Dyna Runs for 2000 files.
- Successfully completed Data analytics project for the development for Crash-Box its dimensions and its energy absorption.
- Scripting and Automation and research analysis with Gen AI tools.
- Led a reverse engineering project for MBRDI, analyzing crash box designs from Xiaomi, BYD, BMW, and other automotive competitors to enhance structural performance and safety.
- Ansa Python Scripting for the Smaller monotonous tasks.

**Equilibrium Solutions PVT.LTD. – CAE Engineer (E2)** July 2022 – May 2023

- Meshing and preprocessing for BMW and Roush projects.
- Handling complete pre-processing tasks for complete car line for MBRDI.
- Team building for new clients and ANSA software training to them.

**Garware hi-tech Solutions Pvt. Ltd. – Engineer Trainee** Jan 2022 – March 2022.

- Static FEA analysis for Engineering products.
- Design and development of hot twin screw polymer extrusion machine.
- Learned about product development and machine maintenance.

## PROJECT EXPERIENCE

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### **Crash-worthiness – Crash Box: Nonlinear explicit analysis.**

- Conducted FE modeling using Ansa used DOE and automation for preparing FE modeling on 2000 Cashbox parts, with different size and design.
- Analyzed energy absorption and displacement and deformation pattern.
- Created Data Analytics recommendations for next carline crash box designs.

### **Frontal Offset Crash – (FMVSS 208, FMVSS 214)**

- The objective was changing of mounting position of Electric motor.
- Used results of Full overlap, small overlap results to understand the intersection of front motor into passenger cockpit penetrating fire wall.
- Using morphing and optimizing design successfully turned the motor into rotation to absorb energy and avoid direct impact with firewall.
- Collaborative Design presentations with (Fatigue)durability team for front impact bumper.

### **Data Analytics and Scripting with Gen AI –**

- Data analytics for the rim Study. Analyzing different angle of impact for spokes, Deformation time of each spoke, hub, flange and stem. Also stress at the point of deformation.
- Used this study for wheel design and structural optimization, new design for SAE safety compliance also manufacturing and process improvement.
- Created Scripting for Bolt creation with just three point we can create a desire solid hex bolt along with material, Contact definition, Pretension and boundary conditions.

## HONORS & AWARDS

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### **SAE-NIS Effi-Cycle Event**

December 2020

- Vice Caption for team ACHILLES for consecutive two years.
- Suspension and Transmission Department Head also won CAE AIR 1 along with 5 awards.
- Pneumatic Suspension and Power addition is Hybrid Electric vehicle using epicyclic gear box.

### **Stratified Chiller Water Tank**

November 2021

- Got Sponsorship worth 5000 \$ (5 lakh Rupees) for the Design and Development of Industrial project from American Society of Heat and Refrigeration.

**Atharv M**