CYRIL LEO

Mobile: +91 9944624248 **cyrilleo1989@gmail.com**

PROFESSIONAL SUMMARY

- Having 8 years of experience as Senior Engineer – Structural Durability having experience on Non-Linear Static Analysis and Normal Modal Analysis using **ABAQUS, Ls-Dyna and NASTRAN** as solvers with **Hypermesh, Hyperview, ANSA and Metapost** as pre & postprocessors in Automotive and Off Highway vehicle OEM's.
- Experienced in full vehicle, sub system and component level "CAE driven design" satisfying OEM specific performance standards.
- Post Graduate in Mechanical from University of Toledo, Ohio, USA.
- Have got adequate working exposure in global environment with global customers.
- Superb leadership, interpersonal, planning and communication abilities.

EDUCATION*

2011 – 2013	**Master of Science** in Mechanical Engineering**,** University of Toledo, Ohio, U.S.A.	GPA 3.9 out of 4 **(Distinction)**
2007 – 2011	**Bachelor of Engineering** in Mechanical Engineering, Panimalar Engineering College, Chennai.	82.2 % **(Distinction)**
2006 – 2007	**H.S.L.C** Campion Anglo Indian Higher Secondary School, Trichy.	90.7 %
2004 – 2005	**S.S.L.C** Campion Anglo Indian Higher Secondary School, Trichy.	85.2 %

***No history of arrears**

EMPLOYMENT HISTORY

Jun'19 – Till Date M/s Fiat Chrysler Automobiles (FCA) India Pvt. Limited, Chennai
Aug'16 – Jun'19 M/s Fiat Chrysler Automobiles (FCA) India Pvt. Limited, Chennai thru SATVEN

Designation: Senior Engineer

SKILL SET: HYPERWORKS, ABAQUS, LS-DYNA, NASTRAN, ANSA, MS-OFFICE

- Handled diverse analysis projects individually starting from complete understanding of analysis requirement till project execution.
- Responsibilities include analysis of automotive components such as BIW, Exterior, Interior Trims and Closures.
- Worked on FE modeling (2D and 3D meshing) of various vehicle assemblies and subsystems.
- Performed CAE load cases such as: Static Linear / Nonlinear Analysis (Geometric, Contacts, Material), Modal analysis, FRF and Random Response Analysis.
- Achieved good correlation of virtual analysis results with the physical test.
- Developed product solutions by collaborating with designers with potential design constraints in packaging, manufacturing and assembly.

Nov'13 – Aug'16 M/s John Deere India Pvt. Limited, Pune thru Zuti Engineering Solutions

Designation: CAE Analyst

SKILL SET: HYPERWORKS, ABAQUS, MS-OFFICE

- Mainly responsible for the project completion starting from the complete understanding of analysis requirement till project execution.
- Performed structural durability nonlinear analysis on Off Highway (Turf and Utility Vehicles).
- Other responsibilities include: Preparing FEA project review, project proposals for analysis projects, presenting analysis results, conclusion and recommendations to stockholders.

WORK PROJECTS

★ FE Jack Loading and Cornering Loading Analysis of Rock Rail Assembly

Software: Hyperworks, Abaqus
Domain: Automotive (Exterior) – Fiat Chrysler Automobiles (FCA)
Description: Project was to evaluate the performance of rock rail assembly under 50% of vehicle GVW load at most possible jacking positions and cornering conditions. Loadings carried out in FEA are similar to physical condition. The analysis targets were such that rock rail should not have any damaging contact or intrusion with body. Displacements and the permanent set values are requested and reported and thereby improved by various design enablers. Stresses and strains are also reported. The project results enhanced the design engineers to better understand the physical loading within the stipulated time.

★ FE Strength Analysis of Console Assembly

Software: Hyperworks, Abaqus
Domain: Automotive (Interiors) – Fiat Chrysler Automobiles (FCA)
Description: Project was to analyze the performance of Console assembly for various load cases like armrest lateral, armrest vertical, vertical load test, rearward load test on end cap. This involved finite element modeling of console assembly, connections, analysis setup, analysis and post processing of the results. Nonlinear static analysis was performed on console by applying specified loads at specified locations as per the standards. Maximum displacement, permanent set, stress and strains were reported and compared with the acceptance criteria.

★ FE Center Console - Head Impact Analysis (ECE-R21)

Software: LS-Dyna, ANSA, Hyperview, Metapost
Domain: Automotive (Interior Cockpit) - Fiat Chrysler Automobiles (FCA)
Description: Project was to evaluate the performance of center console subjected to head impact analysis on target points as per ECE-R21 Standard. The bottom floor brackets are constrained in all degrees of freedom. Angular velocity equivalent to 15mph of linear velocity are applied to the impact pendulum. Thereby, target Kinetic Energy of 152J could be achieved. The impact pendulums are made to impact at the target points agreed by design team. Clips, screws and fastener connections are modeled as 1-D rigid elements (NRBs). Acceleration at the center of the pendulum should be less than 80g during any 3ms interval as per ECE Standard. Acceleration(g) Vs Time(sec) graphs are requested and the "3ms clip g value" are reported for each target location. Also, enablers are provided if the observed "3ms clip g values" are higher than the acceptance criteria.

★ FE Instrumentation Panel - Head Impact Analysis (ECE-R21)

Software: LS-Dyna, ANSA, Hyperview, Metapost
Domain: Automotive (Interior Cockpit) - Fiat Chrysler Automobiles (FCA)
Description: Project was to evaluate the performance of instrumentation panel (IP) subjected to head impact analysis on target points as per ECE-R21 Standard. Body In White(BIW) cut section are constrained in all degrees of freedom. Angular velocity equivalent to 15mph of linear velocity are applied to the impact pendulum. Thereby, target Kinetic Energy of 152J could be achieved. The impact pendulum are made to impact at the target points agreed by design team. Clips, screws and fastener connections are modeled as 1-D rigid elements (NRBs). Acceleration at the center of the pendulum should be less than 80g during any 3ms interval as per ECE Standard. Acceleration(g) Vs Time(sec) graphs are plotted and "3ms clip g value" are reported for each target location. Also, enablers are provided if the observed "3ms clip g values" are higher than the acceptance criteria.

★ FE Drop Tower Test for Door Trims Assembly

Software: LS-Dyna, ANSA, Hyperview, Metapost
Domain: Automotive (Interior Cockpit) – Fiat Chrysler Automobiles (FCA)
Description: Project was to perform drop tower test on door trim assembly for various locations like armrest pelvic and shoulder. Velocity of the knee form is 12mph with the mass of 55lbs. Armrest and shoulder impactors are impacted at an angle of 90deg, whereas pelvic location impactor at 180deg. F-D curve of the door structure should lie within the targets. Clips, screws and fastener connections are modeled as 1-D rigid elements (NRBs). The steel structures ae made as rigid.

ACCOMPLISHMENTS/AWARDS

2021 → **Spot award** from Fiat Chrysler Automobiles Engineering Pvt. Ltd., Chennai.

2019 → **Converted to Fiat Chrysler Automobiles rolls** from Satyam Ventures Engineering Solutions.

2018 → **Employee of the month award** from Satyam Ventures Engineering Solutions, Hyderabad.

→ **Successfully Certified -** Dynamic Analysis using Nastran Exam from MSC-Nastran, USA.

2015 → **Best Contingent Employee of the Year** award from John Deere India Pvt. Limited, Pune.

2012 → **FIRST rank** in May'12 & Nov'12 semester exams.

→ Presented a Term Paper on **Fatigue Crack Growth Propagation Life Assessment of Welded and Weld Repaired Structures.**

2011 → **SECOND rank** in Apr'11 semester exam.

2010 → **SECOND Prize** in Technical Quiz contest in National level technical Symposium at SSN College of Engineering, Chennai.

07-09 → **Active Member** in National Service Scheme **(NSS).**

2003 → Represented School for **District Level Sports** in Karate.

ACADEMIC PROJECTS

- ★ Experimental Investigations on Proton Exchange Membrane Fuel cell (PEMFC) performance in the field of Sustainable Energy. (Oct 2012 - May 2013)
- ★ Design of Clamping Rim Assembly in Flash Cutter Machine in Rim Assembly Line #01 at Wheels India Private Ltd, Chennai. (Jan 2011- May 2011)
- ★ Design & Fabrication of Back Gear Mechanism. (Jan 2010- May 2010)

PERSONAL INFORMATION

Fathers Name	: Mr.M. Santhana Sagayaraj
Date of Birth	: 06-November-1989
Marital Status	: Married
Linguistic Abilities	: English & Tamil.
Hobbies	: Swimming, Glass Painting, & Reading books.
Address	: Plot # 111, 1st Floor, Nakul Tharun Apartments, Telephone Nagar main road, Perungudi, Chennai – 96.

I, **Cyril Leo S** hereby declare that the information furnished about me is true to my knowledge.

References: available upon request