RESUME

BHAGWAT BHAKARE

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Career Objective

To work with an organization that would help me to utilize my Engineering knowledge and FEA skills and thereby contributing maximum towards growth and success of the organization and myself.

Professional Experience

Sr. No	Organization	Position	Duration	Experience
1	Cummins India Ltd. Pune	Solid mechanics Engineer	May-2016 to May 2017	01Year
2	CAE Services, Pune	FEA Application Engineer	May-2017 to Dec-2019	2.7 Year
3	QuEST Global, Bangalore	Aero Engine FEA Engineer	Dec-2019 to Present	1.9 Year

Total Experience- 5.5 Years

Roles & Responsibility

1. Understanding the EWR (Engineering Work Request) and prepare proposal for analysis.
2. Communicate with design team for inputs required for analysis.
3. Present/ Discuss inputs and analysis strategy with design and FEA team.
4. Meshing and deck preparation for analysis as per SOP's.
5. Interpretation of analysis results.
6. Sanity check of result by analytical calculations.
7. Setup meeting with EWR owner and present results with design and FEA managers,
8. Discuss results and give appropriate design suggestions with design and FEA team.
9. Make MOM's and publish analysis report.
10. Provide training to juniors

Software Handled

- Pre-processing : ANSYS Design Modeler and Space Claim, Hyper Mesh, CREO.
- Solver : ANSYS APDL, ANSYS Workbench
- Post processing : ANSYS APDL, ANSYS Workbench, Siesta Mx-Life (GE)
- Modeling Drafting : CREO, CATIA, Auto CAD, UGNX
- Documentation : MS Office (Word, PowerPoint, Excel)

FEA Skills

- Analysis Skills- Linear and Non-linear Static Analysis, Thermal Fatigue Analysis, Modal Analysis, Thermal Analysis, Seismic Analysis, Dynamic analysis, Harmonic Analysis, Fatigue life calculations, ASME BPVC Code, GE SIESTA MX-Life calculation, Campbell diagram,
- Meshing Skills- Solid and shell mesh for casting, fabricated, sheet metal, and plastic parts, mesh morphing, Crash analysis meshing.
- Good knowledge of strength of mechanics, Solid mechanics, design of machine, materials, manufacturing process, GD&T.

Soft Skills

- Good communication skills, ability to solve the dynamic unexpected and challenging situations in the work place and business process, organize and motivate other people, adaptability, work ethic.

Educational Qualification

Degree	University	College	Percentage
B.E. (Mechanical)	Savitribai Phule Pune University	Government College of Engineering & Research, Awasari, Pune.	63.46%
Diploma in Mechanical Engineering	M.S.B.T.E	Government Polytechnic, Hingoli.	83.04%
S.S.C	Aurangabad Board		69.23%

Project Handled

- Project handled at **QuEST Global**: Aero Engine FEA Projects.
  - **LCF life** Calculation for GE9x/GEnx/GE90/Passport20 engine

    Calculate LCF life of aero engine parts like seal, disk and shaft after manufacturing of parts, as per actual dimensions and verify the life of component as per standard life of aero engine parts. Using mesh morph hypermesh.
  - **Bolted joint analysis** of aero engine

    Calculate bolt preload transfer and verify the load transfer as per GE9x engine model due to non-conformance of dimensions.
  - **FM Analysis** of UT Blind Zone – GE90/GEnx/GE9x Engines

    Scope

    Generally, mechanical components like disks undergo Ultrasonic testing after the forging operation. Sometimes, for few locations it is difficult to perform UT inspection called Blind Zones. Assessment for blind zones involves FM analysis for the defect location

    Challenges

    Assumption of crack dimensions for the defect location without UT inspection.
    Selection of type of defect (Surface defect or sub-surface defect)
    Performing FM analysis for different gradient and mission mix combinations.

    Approach

    Perform initial FM analysis with surface crack defect.
    If, it is not meeting the required criteria perform the FM analysis with Sub-surface crack defect with different gradient and mission mix combinations.

    Tools Used – Hyper mesh, SIESTA

    Benefits

    Mechanical components can be accepted easily with the help of FM analysis if the blind zone area is small.
    It is cost effective compared to the other alternatives to inspect the blind zone impact.
- Project handled **at CAE Services**: Static Equipment's Projects
  - Fatigue Analysis of Pressure Vessel

    Pressure vessel is subjected to fluctuating loads either mechanical or thermal. Preparing FEA Model for pressure vessel and perform the Fatigue calculations as per ASME BPVC Sec. VIII Div. 2 Part5 & Annexure 3.F. SN Curve Selection for material of construction. Used solid hexahedral mesh. The pressure vessel was analyzed using Finite Element Method to determine the induced stresses due to various cyclic loadings. In order to assess fatigue strength for the vessel, the fatigue calculations were performed & fatigue damage factor is found much below unit value. Hence, the structure's design was predicted to behave safe during operation without premature failure.
  - FEA of Nozzle to Shell Junction

    Performing the Elastic Stress calculations for a nozzle to shell junction of pressure vessel. Determining the various loading conditions affecting strength of desired nozzle to shell junction of pressure vessel. Preparing FEA Model for Nozzle to shell junction without losing the stress distribution. Used solid hexahedral mesh
- Project handled at **Cummins India Ltd**: Automotive Parts Projects
  - **Transient Thermal and Structural Analysis of Turbine Housing**

    Scope

    Study the Turbine Housing temperature distribution at different time point through out the operating cycles at multiple locations.
    To determine elastic, plastic, equivalent and accumulated strains for multiple cycle of operation.

    Challenges

    Getting the results as specified by the Cycle Definition within the given schedule.
    Measuring the temperature of different locations through out the cycle.
    Determining the locations of "Heat Soak

    Approach

    Prepared the model for applying loads and boundary conditions
    Ansys Macro to run the case transiently
    Post processing

    Tools Used – Hyper mesh, Ansys

    Benefits

    Determination of "Heat Soak" location.
    Identifying the temperature at different locations throughout the cycle
    strain accumulation at different sections.
    Strain range during multiple cycles of operation

Personal Information

Full Name	BHAGWAT BALU BHKARE
Permeant Address	Vitthal-Krupa Niwaas, Vitthal Nagar, Bhakare-Wasti, Manjarsumbha Road, Patoda, Tal. Patoda, Dist. Beed, Maharashtra-414204
Date of Birth	09th Jan 1993
Gender	Male
Nationality	Indian
Marital Status	Married
Languages Known	English, Hindi, and Marathi.

Declaration

I do hereby declare that the particulars of information and facts stated herein above are true, correct and complete.

Bhagwat Balu Bhakare
Date:___/___/_____