KULKARNI CHAITANYA KHANDOJI

MOBILE: +91-997-595-7453 **E-MAIL ID**: chaitanyak6205@gmail.com

CURRENT LOCATION: Bangalore **TOTAL EXPERIENCE:** 5.9 Years

EXPERIENCE SUMMARY:

- Currently working as an Advanced Sub-System Design Integrator on Trent XWB-84EP engine at Power Transmissions and Structures Sub-system, Rolls-Royce India Pvt. Ltd, Bangalore.
- Worked as an Applied Mechanics Engineer in Cummins Tech India Pvt. Ltd, Pune on engine gear train design and analysis.
- 5.9 years of total experience in Transmission Sub System Design and Structural Design for an Aircraft Engine and Power Systems.
- 1 year internship in Automotive Research Association of India, Pune as a project engineer.
- Good knowledge in analysis and Design tools such as UG-NX, ROMAX, MASTA, GT Mechanical and ANSYS.

EMPLOYMENT DETAILS:

- Associated with Rolls Royce, Bangalore as Advanced Engineer since September 2016 till today.
- Associated with Cummins Tech India Ltd, Pune as an Applied Mechanics Engineer- Senior since September 2013 to September 2016.

AREAS OF EXPERIENCE:

- Gearbox Design and Analysis, Engine Gear Train Torsional Dynamics and Analysis, Sub System Design Integration, Finite element modeling and analysis.

EXPERIENCE DETAILS:

Organization : Rolls Royce India Pvt. Ltd, Bangalore

Tools Used : UG NX, Team Centre, IBM DOOR's

Projects : Trent XWB-84EP Front Bearing Housing and Mainline Shafts Integration

Responsibilities: Power Transmission and Structures Sub-System Design Integration

Handling different work packages (Transmission, Shafts and Bearing Chamber Design) and ownership of sub system tasks as Sub System Integrator:

- **Requirement Management:** Requirement capture, Stakeholder Mapping, Context Dia., Boundary Dia., Systemic Textual Analysis and Upkeep of requirement documents for Production and Development hardware. Hands on experience on requirement management tool IBM "DOOR's". Able to manage complex and ambiguous requirements using holistic requirements model. Understanding of engine and sub system functionality, failure modes and certification requirements.
- **Concept Generation and Down Selection:** Experience on sub system level concept design to meet key requirements using hand calculations and design engineering concept. Design trade off and PUGH matrix generation for Concept Down selection. Flow down of Sub system concept definition to commodity design team through requirements documents.
- **Risk Management:** Sub System level key risk identification through Functional Failure Mode and Effect Analysis. Maintaining Risk database (ARM) with mitigation plan, status and up to date scoring. Managing design for services risks and design for assembly issues.
- **Interface Management:** Identify Define and Manage Interface Definition Documents at different design and hardware maturity levels.
- **Manage Tech Account:** Ensure subsystem design meets business requirements against Cost, Weight and Performance tech accounts.
- **Cross Functional Interactions:** Owns Integration approvals and support commodity design gates at different levels of project. Working with different product systems and sub systems to make sure design meets requirement and program dates.
- **Engine Strip Down:** Supported Service Sampling activities at UK Derby and Singapore SAESL. This activity involves managing KMS sheets, observe and document system level failure modes/patterns. Understanding engine behaviors and its comparison with design context.
- Able to manage complex requirements and its compliance by using Systems engineering tools. Effective project planning and co-ordination with multiple teams.

Organization : Cummins Technologies India Ltd.

Tools Used : SMT MASTA, GT Mechanical and ANSYS 16 (Workbench and Classic)

Responsibilities : Worked as Applied Mechanics Engineer in High Horse Power Team.

Ownership of engine Gear Train Design and Analysis for high horse power engine in Applied Mechanics team.

Engine Gear Train Design and Torsional Analysis:

- Complete engine gear train analysis for contact and bending stresses using SMT MASTA/Romax as a tool.
- Supported gear design and analysis using ISO6336 standards
- Contact and Bending Stress
- Macro and Micro Geometry Optimization
- Tooth Interior Fatigue Fracture (TIFF) Analysis
- Analytical Gear Stress Analysis Calculations
- Engine Gear Train Torsional Modeling
- Gear Train Dynamic Model Calibration
- Gear Train Torsional Analysis (Dynamic Analysis) for Gear Mesh Forces extraction for different duty cycles
- Bearing Life Assessment For Gear Train Loads
- Lead for the six sigma project on creating and documenting gear stress analysis procedure for the Cummins.
- Support to Value Package Integration and Special Quality Projects.

Finite Element Analysis

- FE analyses of various engine components like Connecting rod, Piston pin and engine bracket using ANSYS workbench and classic.
- Supported engine piston pin structural and fatigue analysis using ANSYS. Piston pin stress prediction for the thermal and gas pressure load. Able to understand process of piston thermal mapping in ANSYS. Engine piston Pin bore modeling and its effect on the pin stresses.
- Six Sigma: Completed 3 weeks design for six sigma training and supporting critical failure project using six sigma tools.

ACADEMIC PROJECTS:

Organization : Automotive Research Association of India, Pune

Tools Used : ROMAX

Responsibilities : M.Tech dissertation: Design and Analysis of Light Commercial Vehicle Gearbox (5-Speed)

- Conducted detailed design hand calculations for gear ratio, gear macro geometry optimization, detailed gear profile, ISO-6336 bending/contact stress, all shaft sections and bearing selection. Bearing and gear life calculations based on duty cycle and utilization.
- Basic calculations and design of gear selector mechanism components.
- Modeling and analysis of transmission system by using ROMAX software for ISO-6336 rating.
- Gear micro geometry optimization using ROMAX.

Organization : Tool Tech Global Engineering Pvt. Ltd

Tools Used : HYPERMESH 9.0 and ANSYS 10

Responsibilities : B.E Project: FE Analysis of Cylinder bore distortion

- Due to bolt tightening cylinder bore deforms to form elliptical shape which is responsible for power loss as well as emission. Using FE tools, for desired bolt pretension amount of distortion is measured.

SOFTWARE SKILLS SUMMARY:

FE Analysis Tools	:	ANSYS 16 Workbench and Classic
Pre-Processing	:	Basics of Hypermesh, CREO, UG, Team centre
Gear Analysis and Modeling	:	GT Mechanical, ROMAX and SMT MASTA

EDUCATIONAL SUMMARY:

Year	Certificate/ Degree	School/ College/ University	Percentage
2013	M.Tech Automotive Technology	College of Engineering, Pune	8.49 CGPA
2010	B.E. Automobile Engineering	Shivaji University, Kolhapur, Maharashtra	70.71%
2006	Intermediate/+2	YCIS, Satara, Dist- Satara, Maharashtra	61.17%
2004	Matriculation	AK Highschool, Satara, Dist- Satara, Maharashtra	80.53%
GATE: *Secured 1586 All India Rank (GATE-ME-2011) With 98.04 Percentile*			

PERSONAL DETAILS:

Name	:	Chaitanya Khandoji Kulkarni
Father's Name	:	Khandoji Shivram Kulkarni
Permanent Address	:	A/P-Kukudwad Tal-Man, Dist-Satara, 415509
Current Address	:	Flat no 4, Krishna Kunj,16th Cross Road, Near Golden Gym, Kanaka Nagar, RT Nagar Post, Bangalore, 450032
Gender	:	Male
Date Of Birth	:	26th January 1988
Marital Status	:	Married
Languages Known	:	English, Hindi, Marathi

INTEREST:

Biking, Driving, Reading novels, Visiting new places, Playing cricket, Interior designing

DECLARATION:

I hereby declare that the above written particulars are true to the best of my knowledge and belief.

DATE:

PLACE: BENGALURU KULKARNI CHAITANYA KHANDOJI