



Sahil

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Sr. MANAGER (Design & Development)
Lean Operation Management & Six Sigma (IIM Rohtak)

CORE COMPETENCIES

Technical Expertise
Leadership
Strategic Thinking
Project/Program Management
Problem-Solving
Team Management
Stakeholder Management
Risk Management
Strategic Planning
Business Acumen
Analytical Skills
Problem-Solving
Change Management
Collaboration and Influence
Estimation, Budgets & Cost Control

EXPERTISE AREA

+Product Design & Development
+Design Analysis:FEA
+Design Streamline: CFD
+Fluid Thermal Structure Interactions
+Computational Geometry
+Grid Generation
+Design Verification & Validation
+ Design for Manufacturing
+ Lean Manufacturing

Expertise in setting up **objectives, designing & streamlining business process and executing work** to improve productivity & reduce cost; targeting senior-level assignments as **Sr. Manager/ AVP – NPD or R&D (Design + Manufacturing)** with an organization of repute

Location Preference: Delhi/ NCR /Bangalore/Chandigarh

Profile Summary

- An accomplished **Mechanical Engineer** offering **11+ years** of rich experience in **Mechanical Design & Analysis, Design engineering, Program management entailing Thermal Equipment Design,UAV, 3D Modelling, Finite Element Analysis, and Computational Fluid Dynamics,Design for Manufacturing**
- Presently working In Techeagle Innovation Pvt Ltd as a **CAE Manager**
- Creative **CAE Manager** with an exceptional background in the Automotive/Aviation industry. Proven success in building and motivating program teams to meet project goals. Demonstrated leadership in systems implementation, program execution, and process improvement engagements.
- Highly skilled in Full Product Life cycle activities including **Part Design, Assembly, Surface Design, Sheet Metal and Motion Study**
- Excellent at **managing complete Engineering Operations** involving requirement analysis, Finalization of Specifications, Designing, Prototype Development, Testing & Development in compliance to global quality standards
- **Responsible to achieve PQCDMSM (Productivity/Quality/Cost/Delivery/Safety/Moral) Targets**
- Provided support on Product launch activities from initial release till SOP; resolved problems with root cause analysis & Design change Management
- Devised **significant solutions, operations & projects** for making effective utilization of man, machine, method & materials based on production program and developed SOPs for operational excellence
- Expertise in **Lean manufacturing methodologies**, driving operational efficiency, and eliminating waste. Proven track record of leading cross-functional teams, implementing Lean tools, and achieving cost savings and process improvements. Strong leadership and strategic skills to foster a Lean culture and drive continuous improvement initiatives.

Work Experience

Aug'21 to Present: TechEagle Innovations Pvt. Ltd as Sr. Manager (Design & Development)

Sr. Manager (Design & Development): Aug 2023

CAE Manager: Aug2021-July 2023

Key Result Areas:

- Help to conceive, design and bring to production different UAV projects.
- Develop program vision and timelines, and gain buy-in for that vision across senior leadership.
- Designing and developing the structural components of our UAVs in collaboration with other engineering groups and departments.
- Analyze the UAV specification data and advise on the use of the proper Manufacturing Techniques for the Manufacturing Team
- Headed the Engineering teams and took strategic decisions to facilitate the program management of the various interconnected UAV projects.
- Develop Finite Element Analysis (FEA) & Fatigue and Damage Tolerance (F&DT) Analysis Methodology
- Generate aerodynamic data required to support other systems like Flight controls, avionics systems, etc.
- Perform CFD analyses of UAVs to evaluate aerodynamic performance.
- Estimates for Techno-Commercial proposal.

- Program Management of reviewing task as per plan versus actual gate opening, meeting targets.
- Utilize large databases of material property information to best select materials for modelling
- Certification Support and Documentation

Previous Work Experience

Jan'20 to July'21: Design Consultant (Freelancer)

Jun'19 to Dec'19: Deinde Engineering Services, Chandigarh as Project Manager (Design & Development)

Key Result Areas:

Project Planning & Management

- Managing overall operations for executing projects related to Heat Transfer & CFD
- Monitored projects with respect to optimization of the geometry with view to Thermal (Heat & Mass Transfer) Fluid Dynamics
- Assisted in providing design solutions for thermal-fluid components and systems
- Designed and develop maintain comprehensive project documentation
- Interfaced engineering activities with various vendors for commercial aspects of the bid, ensuring all services are included in the final price to the customer
- Coordinating with other disciplines like Thermal & Fluid Design and implemented quantifiable testing methodology to validate product designs
- Managed CFD simulations of customer installations to optimize high volume low speed (HVLS) fan applications
- Designed and planned the layout for AUTOCAD production of various design projects including requirement analysis, sketch review and finalizing specifications
- Administered detailed drawings of structures for constructors & preparing models of the projects
- Directed, led & motivated workforce and imparting continuous on job training for accomplishing greater operational effectiveness/ efficiency
- Worked on succession planning of the workforce, shift management activities, appraising the member's performance & providing feedback

Aug'18 to Jun'19: Rico Auto Industries, Gurgaon as Assistant Manager (R&D)

Key Result Areas:

- Spearheaded operations related to design, validation and optimization of **Mechanical Components**
- Performed research and analysis of customer design proposals, specifications, manuals, and other data to evaluate the feasibility, cost, and maintenance requirements of designs or applications
- Worked on structured / unstructured meshing on complex geometries using ICEM
- Assisted in performing CFD for both Structural and Flow Analysis
- Contributed in Result Analysis and Design Optimization
- Executed various Industrial and Research projects on **CAD, CFD and FEA** for domestic and international clients
- Successfully maintained complete documentation for both FEA and CFD Analysis

Jul'13 to Jul'18: Eduhive Engineering Consult, Dehradun as Project Associate

- Generate Project Execution Schedule
- Define meshing & solution strategies
- Mentor/Guide a Team of 7-8 Engineers
- Client Communication for Technical closure

Jun'12 to Jun'13 Airframe Aerodesigns Pvt. Ltd., Bangalore as GET

Projects

- **UAV Design & Development for Payload 3 kg Vertiplane X3 (Product Design & Development), 25kg (Under Process)**
- UAV Air frame Composite Modeling, Vibration Analysis, Drop Test
- Partial Co-Axial Propeller CFD Analysis
- Composite Material Modeling & Optimization of Landing Gear for weight Reduction
- **2-Axis Solar Tracker Structure Design For wind speed 170 KMPH**
- Thermal and Airflow Analysis for Commercial Office Building
- CFD Analysis of Pedestrian Tunnel
- CFD Analysis of Shell & Tube Heat Exchanger
- Effect of Wind on External Environment of Chiller
- Design Optimization of a Cyclone Separator
- CFD for a Microchannel Heat Transfer
- IC Engine Performance Improvement Using Guide Vane Swirl and Tumble Device

- CHT through Solids of Different Material
- Simulation of Steam Vent Silencer
- CFD Analysis of Butterfly Valve with and without Spring Force
- Simulation of Turbulent Flows Through a Solar Air Heater
- Design of Perforated Duct & CFD Validation of Interconnecting Duct System
- CFD Flow Modelling and Analysis of an Indoor Shooting Range
- Acoustic Silencer - Muffler (82db@ 1mtr) Design, Detailing & FEA Validation
- Design & FEA of Horton Sphere for Hypersonic Wind Tunnel
- Design, Flexibility Analysis & CFD of Wind tunnel piping
- Heat Exchanger Design & Analysis
- Thermo Mechanical Analysis of Hot Plate
- Design Review of Transit generator HVAC & Liquid cooling system
- FEA Validation of Thermal Shroud Container Assembly
- Seismic - Structural Analysis of Steel Structure
- Design & Consultation of HVAC
- Vacuum Chamber Design Modification and FEA Validation
- Thermal Analysis of Heating Chamber (Radiation model) of Electro transport system
- Flow Simulation CFD & Structure - thermal - Vibration Coupled FEM Analysis of Waste Heat Boiler Pipe- Duct-MC Assembly
- Flow Analysis CHT/CFD & Thermal Analysis of Vacuum Chamber (Radiation model)
- Static structural Analysis & Fatigue analysis of Goose neck support & mud gas separator

Technical Proficiency

- **CAD Tool:** Autocad Mechanical/Electrical, Solidworks, Catia, Inventor
- **Aero Tool:** Xflr, Flow 5 , Advanced Aircraft Analysis,
- **FEA/Composite Modeling Tool:** Ansys, Apdl, Femap, Altair Hyperworks, Hyper X, Ls Dyna, Granta, ncode Life
- **CFD Tool:** Ansys Fluent/CFX, Star CCM
- **Meshing:** ICEM CFD, Grid Pro, Salome
- **Open-Source Software:** **Open foam, Salome Meca, Openaerostruct, Dafoam (High-fidelity Multidisciplinary Design Optimization)**
- **Structure Analysis:** Static, Dynamic, Linear, Non Linear, Fatigue and Damage Tolerance Fatigue Life, Vibration, Acoustic, composite Modeling, Material Selection
- **CFD:** Internal & External Flow, Heat & Mass Transfer, Multi phase, turbomachinery

Academic Detail

- **Lean Operation Management & Six Sigma (IIM Rohtak)**
- **B.Tech. in Mechanical Engineering from BRCM College of Engineering & Technology in 2013**
- **Diploma (Mechanical Engineering) from Haryana State Board Technical Education in 2010**

Personal Details

Date of Birth: 07th September 1987

Languages Known: English & Hindi

Marital Status: Married

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