UDAYKUMAR

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SUMMARY

Experienced Mechanical Design and Simulation Engineer specializing in advanced 3D modelling, simulation, and comprehensive product development. Proficient in industry-standard tools such as **CATIA, SolidWorks, Solid Edge, PTC Creo, Siemens NX, ANSYS, Abaqus, Hyper Mesh, ANSA, and MATLAB**. Skilled in utilizing **PLM/PDM systems** to streamline design workflows and ensure efficient project management. Dedicated to delivering innovative, optimized, and reliable engineering solutions through a combination of analytical expertise and practical design experience.

EDUCATION

Bangalore Institute of Technology, Bengaluru	**DCE 2022-2025**
B.E. in Mechanical Engineering	**CGPA- 7.52**
Jawaharlal Nehru Polytechnic (AIDED), Thana Kushnoor, Bidar	**2018-2021**
Mechanical Engineering	**PERCENTAGE-72%**

SKILLS

- Proficient in 3D Modeling: **CATIA, SolidWorks, Solid Edge, PTC Creo, Siemens NX**
- Simulation Software**: ANSYS, Abaqus, Hyper Mesh, ANSA, and MATLAB**
- Product Design & Development: **Concept to prototype, design optimization**
- Bill of Materials (BOM) Management
- Basic Microsoft Office Suite: **Excel, PowerPoint, Word**
- Soft Skills**:** Problem-solving, teamwork, technical documentation, time management

WORK EXPERIENCE

Jk Fenner India ltd patancheru   **2021-2022**

Quality and Product Design Engineer

Supported product design initiatives by creating detailed 3D models and simulations, contributing to the overall design quality and innovative solutions.

- Assisted in quality assurance processes to ensure compliance with industry standards and specifications, enhancing product reliability.
- Collaborated with cross-functional teams to gather requirements and feedback, leading to continuous improvements in design methodologies

PROJECTS

Modeling and Analysis of Vertical Axis Wind Turbine Blade   **APR-JUL 2024**

- Developed comprehensive 3D models using CATIA V5 and SolidWorks, focusing on aerodynamic efficiency and structural integrity.

- ➢ Conducted simulations to analyze performance metrics, leveraging results to propose design optimizations.
- ➢ Used QBlade and ANSYS for simulations.
  Focused on Darrieus or H-rotor blade designs with composite materials.
- ➢ Evaluated aerodynamic performance and optimization techniques.
- ➢ Summarized key findings and suggested future improvements.

Studies on Free Convection in a Trapezoidal Cavity with Porous Media   **AUG-DEC 2024**

- ➢ Utilized MATLAB for the simulation of free convection phenomena, analyzing the impact of various parameters on fluid flow behavior.
- ➢ Interpreted and presented results, contributing to the understanding of thermal management in engineering applications.
- ➢ Investigated the effects of porosity and internal heat generation.
- ➢ Analysed temperature and flow characteristics under different conditions.
- ➢ Summarized key findings and potential applications in thermal management

INTERNSHIP EXPERIENCE

1. CONCEPTIA KONNECT - Industry Leading Simulation Solutions   **FEB-MAY 2025**

I have successfully completed an intensive training at Prime Tooling's, where I specialize in design and structural analysis, applying industry-standard tools like ANSYS, SolidWorks, and PTC Creo to develop optimized engineering solutions. My role involves simulation, design refinement, and efficiency improvements to enhance product performance. While my official certification reflects one year, my ongoing experience continues to deepen my expertise in precision engineering and problem-solving.

Skills: Bill of Materials (BOM) Management, CAE, CAD/CAM, simulation, PLM Tools, SolidWorks

2. PRIME TOOLING   **MAR-FEB 2025**

I have successfully completed an intensive training at Prime Tooling's, where I specialize in design and structural analysis, applying industry-standard tools like ANSYS, SolidWorks, and PTC Creo to develop optimized engineering solutions. My role involves simulation, design refinement, and efficiency improvements to enhance product performance. While my official certification reflects one year, my ongoing experience continues to deepen my expertise in precision engineering and problem-solving.

Skills: PTC Creo · CATIA · Ansys Mechanical · SolidWorks simulation · SOLIDWORKS

3. CNC Machines and Manufacturing Bharat Fritz Werner Limited   **OCT-NOV 2023**

- ➢ **Hands-on Experience**: Engage directly with CNC machines and industry practices.
- ➢ **Cutting-edge Technology:** Work with state-of-the-art manufacturing technologies.
- ➢ **Skill Development:** Enhance your technical and problem-solving abilities.
- ➢ Completed an internship focused on CNC machining processes and manufacturing techniques, gaining practical knowledge applicable to mechanical design and production.

4. BELATHUR INDUSTRIES

Focused on machining operations using CATIA V5   **MAY-JUNE 2023**

- ➢ Developed detailed 3D models and technical drawings for various components using CATIA V5.
- ➢ Assisted in optimizing machining processes to enhance efficiency, precision, and productivity.
- ➢ Gained hands-on experience with advanced CAD/CAM software and industry-standard practices.
- ➢ Collaborated closely with engineering teams to implement and troubleshoot machining operations.
- ➢ Conducted rigorous testing and verification of machined parts to ensure they met quality standards.

5. BOSCH   **FEB-MAR 2023**

I had the opportunity to work as an intern at Bosch Diesel Services, where I gained hands-on experience in fluid flow simulation using industry-standard tools like ANSYS Fluent and SolidWorks Flow Simulation. My work involved analysing diesel injection systems, optimizing flow characteristics, and contributing to performance improvements through CFD simulations.

This internship sharpened my skills in computational fluid dynamics (CFD), thermal analysis, and design validation, preparing me for real-world engineering challenges in automotive and fluid systems.

Skills: SolidWorks simulation · Ansys Fluent

CERTIFICATIONS

- ➢ CATIA V5 Certification, Solidworks, Ansys workbench, Solidworks CAD Design,
- ➢ Python Programming Certification

PERSONAL INTERESTS / HOBBIES

- ➢ Reading, Traveling, Music listening, playing carrom, playing cricket

LANGUAGES

- ➢ English, Kannada, Hindi, Marathi