MILJOT SINGH GAMBHIR

Mechanical Engineer

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Profile

Mechanical Design Engineer skilled in CAD software, particularly SolidWorks and AutoCAD, with specialized experience in sheet metal design, fabrication, and product development. Strong technical proficiency and creativity in designing efficient, production-ready parts and assemblies. Proven track record in optimizing designs to meet technical constraints, client specifications, and manufacturing feasibility, with a commitment to high standards of accuracy and project efficiency.

Education

MSc, Advanced Mechanical Engineering

University of Sheffield, United Kingdom

- **Focus**: FEA, CFD, 3D Printing, Carbon-Capturing system, and Human Ergonomics.
- Dissertation: Designed a more efficient horizontal wind turbine by applying advanced CFD simulations, achieving a 15% increase in energy capture.

Bachelor of Technology, Mechanical Engineering with specialisation in Automobile Engineering

Dehradun Institute of Technology, India

- Acquired a strong foundation in automotive engineering, with a focus on design, analysis, and the application of engineering principles. Also gained expertise in automotive system integration, mechanical analysis, and CAD.
- **Key Projects**: Formula Student race car, Automotive System Integration, Light-weight household Trolly.

Experience

Analytics Consultant

Clarivate Analytics, India | Jan 2022 - Sep 2023 |

- Streamlined patent analysis processes, improving turnaround times by 15% through data-driven process improvements.
- Collaborated with cross-functional teams to design and implement automated workflows, reducing manual effort by 30%.
- Provided technical insights to clients, enabling more precise and effective decision-making in IP analysis.

Mechanical Design Engineer

3Ding, India | Mar 2021 – Sep 2021 |

- Utilized SolidWorks to produce accurate, fabrication-ready designs for various mechanical components, improving manufacturing lead time by 25%.
- Conducted quality assessments on prototypes, achieving high client satisfaction by meeting specifications and ensuring design accuracy.
- Optimized assembly workflows, streamlining production through detailed design and reducing assembly errors by 15%.

Robotic Assembly Design Engineer

Ather Energy, India | May 2020 – Nov 2020 |

- Designed robotic assembly systems to improve layout efficiency, contributing to an 18% increase in production speed.
- Created comprehensive 3D CAD drawings and manufacturing specifications, enhancing system reliability and reducing downtime.
- Collaborated on cross-functional projects to align robotic workflows with production targets, leading to a 20% reduction in cycle time.

Projects

- **Optimising Horizontal Wind Turbine Design Concepts:**
  Engineered wind turbine blades using SolidWorks and ANSYS to enhance aerodynamic efficiency, achieving a 10% increase in power output. Utilised CFD techniques to simulate airflow and optimise energy capture, ensuring compliance with ISO standards and industry regulations. Collaborated with experts to validate the design, driving practical implementation.

- **Prospects of Utilizing Carbon Fiber in the United Kingdom Public Transportation:**
  Developed lightweight, durable carbon fibre components for public transport systems, reducing overall weight while maintaining structural integrity. Applied FEA in ANSYS to assess stress and strain, improving safety and performance. Delivered comprehensive technical documentation, supporting the adoption of sustainable materials in transportation.
- **Static Structural Analysis of Elastomeric Engine Mount: A Comprehensive Study on Deformation Evolution Due to Ageing:**
  Conducted FEA to analyse deformation and stress evolution in rubber engine mounts due to ageing, leading to enhanced durability. Combined CAD modelling with theoretical analysis to improve understanding of material behaviour. Proposed design strategies that extended product lifespan, enhancing overall system performance.

Volunteering

DIT Motoracing, Crew Member

As a crew member of DIT Motoracing, I contributed to constructing a Formula-1-style car for the Formula Bharat competition, where we competed against over 100 collegiate teams. In the Braking Department, I collaborated with a dedicated team to refine the braking system, enhancing both track performance and functionality. This experience gave me valuable insights into high-performance vehicle design and competition dynamics, further igniting my passion for innovation in automotive engineering.

SKILLS & INTERESTS

- **Languages:** English, German, Punjabi, Hindi
- **Core Competencies:**
  - **Technical Proficiency:** AutoCAD, SolidWorks, Fusion 360, CATIA, Siemens NX, MATLAB, Revit
  - **Analysis Tools:** Finite Element Analysis (FEA), Stress Analysis, Thermal Analysis, GD&T (Geometric Dimensioning & Tolerancing)
  - **Data Analysis:** Statistical Analysis, KPI Tracking, Performance Metrics
  - **Other Software:** Microsoft Word, Excel, PowerPoint, BOMs (Bill of Materials)
  - **Manufacturing & Fabrication:** Sheet Metal Fabrication, Machining, Structural Steelwork, Additive Manufacturing.
  - **Design Methodologies:** Design for Manufacturing (DFM), Design for Assembly (DFA)
  - **Cross-Functional Collaboration:** Effective team player with experience in liaising across departments for cohesive project outcomes.
- **Soft skills:** Attention to detail, problem-solving, effective communication, time management, team collaboration, adaptability, creativity, critical thinking, customer focus, product documentation, organisational skills, patience, initiative, flexibility, presentation skills, multitasking, receptiveness to feedback, decision-making, strong work ethic, conflict resolution.
- **Certifications:** AutoCAD, SolidWorks, Autodesk Fusion, Revit Fundamentals for Building Services, Reverse engineering for 3D printing and Lean Six Sigma White Belt.