MILJOT SINGH GAMBHIR

Graduate Mechanical Engineer

Sheffield, United Kingdom | **E:** miljotsinghgambhir@gmail.com | **M:** +44 7984304616

L: https://www.linkedin.com/in/miljotsinghgambhir/

W: https://singhmiljot.github.io/mechanical-engineer/

Profile

Mechanical Engineering graduate with hands-on experience in product design, analysis, and manufacturing. Proficient in SolidWorks, AutoCAD, Fusion 360, and FEA, with a focus on improving product efficiency and reliability. Passionate about applying mechanical principles to develop innovative and practical engineering solutions.

Education

MSc, Advanced Mechanical Engineering
University of Sheffield, United Kingdom (2023-present)

- **Focus**: FEA, CFD, 3D Printing, Carbon-Capturing system, and Human Ergonomics.
- Dissertation on optimising horizontal wind turbine design, applying simulation techniques to improve efficiency.

Bachelor of Technology, Mechanical Engineering with specialisation in Automobile Engineering Dehradun Institute of Technology, India (2018-2022)

- 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, Automotive System Integration.

Experience

Clarivate Analytics
Analytics Consultant, India **Jan'2022-Sep'2023**

- Reclassified over 1,500 patent documents, enhancing the accuracy and accessibility of patent data, and supporting more informed client decisions.
- Collaborated with cross-functional teams to streamline patent analysis processes, reducing operational bottlenecks and improving turnaround times by 15%.
- Designed and implemented automated workflows in Excel, reducing manual effort by 30% and significantly improving process efficiency.
- Delivered data-driven insights that optimised client patent analysis, improving output precision and helping clients navigate complex IP challenges more effectively.

3Ding

Mechanical Design Engineer Trainee, India **Mar'2021-Sep'2021**

- Designed and optimised 3D models for clients using additive manufacturing techniques, resulting in a 20% reduction in material usage without compromising product integrity.
- Led the quality assessment of 3D-printed prototypes, ensuring high precision and adherence to client specifications, which improved client satisfaction rates by 15%.
- Streamlined design processes and integrated FDM and SLS 3D printing technologies, reducing project lead times by 25%.
- Collaborated with cross-functional teams to implement innovative design solutions, enhancing overall product performance and operational efficiency.

Ather Energy

Robotic Assembly Design Engineer, India **May 2020-Nov'2020**

- Engineered robotic assembly systems, increasing production efficiency by 18% and ensuring precise execution of manufacturing tasks.
- Led process optimisation efforts, improving robotic workflows and reducing assembly cycle time by 20%.
- Collaborated with cross-functional teams to refine design and integration processes, enhancing system reliability and reducing production errors by 15%.
- Implemented data-driven improvements, streamlining robotic operations and boosting overall system performance across production lines.

Projects

Optimising Horizontal Wind Turbine Design Concepts:

- Designed and optimised wind turbine blades using SolidWorks, improving aerodynamic performance and increasing power efficiency by 10% through FEA simulations in ANSYS.
- Applied computational fluid dynamics (CFD) techniques to accurately simulate airflow and energy capture, enhancing overall design effectiveness.
- Collaborated with industry experts to validate design modifications, ensuring compliance with ISO standards and practical implementation.
- Employed critical thinking to troubleshoot and optimise turbine performance, successfully addressing complex engineering challenges.

Prospects of Utilizing Carbon Fiber in the United Kingdom Public Transportation:

- Developed carbon fibre components using SolidWorks, focusing on lightweight and durable designs while conducting FEA in ANSYS to assess stress and strain under operational loads.
- Researched the integration of carbon fibre into public transport systems, evaluating manufacturing processes and ensuring compliance with ISO standards.
- Produced comprehensive technical documentation and reports based on simulations and material studies, advocating for sustainable transportation solutions.

Static Structural Analysis of Elastomeric Engine Mount: A Comprehensive Study on Deformation Evolution Due to Ageing:

- Conducted detailed FEA on rubber engine mounts to analyse stress, strain, and deformation patterns due to ageing, leading to strategies that enhance design durability.
- Utilised CAD modelling and FEA methods to simulate material dynamics, merging theoretical knowledge with practical experimentation to improve structural behaviour comprehension.

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

Technical skills:

- **CAD Software:** AutoCAD, SolidWorks, Fusion 360, CATIA
- **Analysis:** FEA (Finite Element Analysis), Stress Analysis, Thermal Analysis
- **Other Software:** Microsoft Word, Microsoft Excel, MS PowerPoint
- **Manufacturing Processes:** Lean Manufacturing, Additive Manufacturing
- **Design Methodologies:** DFM (Design for Manufacturing), DFA (Design for Assembly)

Soft skills: Attention to detail, problem-solving, communication, time management, team collaboration, adaptability, creativity, critical thinking, customer focus, Product Documentation, organisation, patience, initiative, flexibility, presentation skills, multitasking, receptiveness to feedback, collaboration, decision-making, work ethic, and conflict resolution.

Certifications: AutoCAD, SolidWorks, Autodesk Fusion, Reverse engineering for 3D printing.