

Niroshan Vickneswaran

Mechanical Design Engineer

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Summary

- Proficient in 3D modelling, Simulation and FEA analysis with a strong mechanical background.
 - Experienced in Solidworks, AutoCAD, Arena, Ansys, PTC Creo, MATLAB, Microsoft Project, and Microsoft Excel software by using them for academic Projects and course works. These tools not only aided me in completing coursework and assignments but also instilled in me the ability to swiftly adapt and excel when learning new software.
 - Acquired leadership qualities by leading and associating with clubs and societies in and out of college.
 - Learned to handle projects from the exposure of the new factory erection project in my former employment.
 - Proficient in Project management, resource management, people management and skilled in thriving within fast-paced, deadline-driven environments.
 - Having strong communication skills to share my ideas and collaborate with others, helped me to negotiate and grand 5% discount on the Annual Maintenance Contract in my previous employment.
 - Associate member of the Institution of Mechanical Engineers (IMechE) and working towards becoming a Chartered Engineer (CEng).
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Education

September 2022 - 2023 **MSc in Engineering Management** **Brunel University London, UK**

Key modules Grade – Second Upper

- CAD & Manufacturing Technique
- Manufacturing Systems Design and Economics
- Quality and Reliability Management
- Robotics and Manufacturing Automation
- Logistics & Supply Chain Management
- Project Management

July 2017- May 2021 **B.Tech in Mechanical Engineering** **National Institute Technology Warangal, INDIA**

Key modules Grade - Second Upper

- Heat and Mass Transfer
 - Design of Machine elements
 - Fluid Mechanics & Hydraulic Machines
 - Advanced Manufacturing
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Project Works

Product development and communication

- Designed the detailed 3D hover board model with all its parts and assembled using Solidworks.
- Static FEA analysis was conducted on the model and redesigned by removing the bottleneck. The final product was able to carry full-grown humans without any static failure.
- Performed an ergonomic study by using Siemens's Jack virtual human modelling software.
- The final model was animated and rendered by using the Keyshot rendering tool for effective customer communication.
- The final model drawing is prepared with a Bill of material (BOM) in the manufacturing perspective.

Manufacturing process Simulation

- A digital twin of a manufacturing plant was developed and simulated in the Arena Simulation software.
- Resolved the process bottleneck and increased the resource utilization rate by rearranging the plant layout and changing conveyor velocities.

Vehicle design Competition

- As a team, we designed and fabricated our Quad bike and won the all-INDIA 7th rank in the QBDC 2019 competition.
- I led the steering department and used Solidworks to design the steering system and MS Excel for data calculation and calibration.
- Steering Knuckle was designed using the Solidworks and FEA analysis was conducted on Ansys. The finale design was manufactured by CNC cutting.

- This opportunity provided me with a platform to enhance both my technical competencies and soft skills, including problem-solving, presentation, technical report writing, and Analytical thinking.
- We designed and fabricated the vehicle by following the Design for Manufacture concept without compensating the performance.

Bachelor's Final Dissertation

- The project discusses thermal management in the photovoltaic panel to nullify the efficiency drop due to temperature rise.
- We collaboratively designed and analysed the model by using ANSYS CFD.
- As an outcome, we achieved significant photovoltaic panel overall efficiency by using Heat pipe cooling with a layer of phase-changing material.

Employment History

October 2021 – August 2022

Mechanical Engineer
(Maintenance & Utilities)

Sands Active Pvt Ltd.
(Pharmaceutical Industry)

- Prepared 3D Designs and drawings with BOMs for fabrication and documentation works.
- Performed design calculations of mechanical systems, to facilitate the design modifications in accordance with the specific requirements of user departments.
- Interpreted the technical drawings and P&IDs to the fabricators and contractors and simplified the drawings when it required.
- Prepared and maintained the failure analysis reports, SOPs and usage reports and acted based on them to reduce wastages and accidents from time to time.
- Supervised the technicians, organized shifts, and efficiently allocated the resources for plant utility needs through seamless coordination with other departments
- Planned and Scheduled Maintenance activities and handled breakdowns by coordinating with user departments.
- Dealt with third-party vendors for the preventive maintenance of critical machinery, alongside ensuring the Pharmaceutical Manufacturing GMP standards.
- Assisted the QA department during the commissioning and qualification works of new systems.
- Experienced in handling High-pressure steam boilers, compressors, chillers, Air Handling Units, water treatment systems and wastewater treatment systems.

May 2019 – July 2019

Engineering Internship

Serendib Flour Mills Pvt Ltd.
(Food Industry)

- Overseen the maintenance works and wrote maintenance reports and incident reports.
- Accompanied the Senior engineer and learned to do technical documentations.
- Drafted the part drawings and prepared BOMs for fabrication works and Quotations.
- Ensured the technician's and work area's safety and quality.
- Learned about pneumatic valves, sensor operations and conveyor maintenance.

Other Employment History

October 2022 – Present

Crew Member

McDonald's, Hayes Town, UK

- Responsible for managing the Kitchen area with higher quality standards.
- Assisting the customers and helping them with a positive attitude.
- Helping colleagues and sharing the workload to achieve the targets without compensating the quality.
- Received a 90% customer satisfaction rating for customer service and won the Employee of the month Award.

Interests

- Explores new technologies and upgrades through research papers, articles and digital platforms.
- Attends seminars and exhibitions in IMechE and other platforms to learn new stuffs and develop connections.
- Practices random designs and models to sharp up my design skills..
- Use free times to learn online courses to gain new skills.
- Read business, self-help-related books and listen music to refresh my mind.
- Likes to explore new places, people, cultures, and foods.

References

Available on request