

Jagdeep Singh

Email:singh3508@gmail.com

Phone: +91-9004008569

Career Interests

I want to derive some innovative projects with frugal innovations, with the help of sophisticated technology that will be useful and available to society at large. Want to do something more than just a job.

Education

B.Tech., Mechanical Engineering, Thapar University, Patiala

C.G.P.A: 7.6/10

June' 07- June' 11

M.Tech., Aerospace Engineering, IIT Bombay, Mumbai

Pursuing

July 2013

Professional Summary

- Experience in product design and development activities.
- Familiar with design verification and optimization using ansys workbench (static structural).
- Proficient in geometric dimensioning and tolerancing (ASME Y14.5 1994) and tolerance stack up analysis.
- Experience in risk management of medical devices.
- Well versed with the PDM and PLMS systems such as Windchill, intralink.

Other Accomplishments & Hobbies

- 99.84 percentile in GATE Mechanical.
- Love badminton and have won silver medal in men's double badminton tournament at inter university competition.
- Avid photographer in street, still life, and portrait photography.
- Traveling, trekking in Himalaya.
- Foreign languages, basic knowledge of German, learning French and Bengali.
- Script writing and reading books and novels and intellectual movies.

Work Experience

Organization: Stryker Global Technology Centre, Gurgaon, India

July' 2011 Till date

Roles and responsibility: Product engineering and sustainment

Initially I was associated with team doing continuous improvement activities for hospital beds and stretcher products . The products ranged from mechanically motion controlled devices to hydraulic and electric lift mechanism for adjusting the patient height. I was responsible for making engineering changes for better performance and to address market failure of the products.

- Worked on design changes in lifecycle of the products by understanding the problem statement and developed cost effective solutions around the problem.
- Carried out the impact analysis of the proposed solutions and run simulation and physical verification tests if required.
- Assessed vendor capability for required quality of the parts in case vendor movement is required.
- Analyzed the test data from the supplier and fixed the process specs for ultrasonic welding of the mattress covers

Responsibility: LD-304 3rd edition compliance

LD-304 is a hospital birthing bed. The bed was to be updated for requirements of IEC-60601 (standard for medical device safety) 3rd edition. Project started with gap analysis by UL between 2nd edition and 3rd.

- Developed concepts for the hand grip assembly that mitigated the risk of any pinch points to the user and tested on ansys workbench for structural rigidity and strength.
- Reverse engineered a plastic blow molded part and tested for structural rigidity and strength on ansys workbench platform.
- Designed product labels for the residual risks, implemented my idea of converting all the text labels into standard pictorial representations. The idea eliminated need of multi lingual labels and enhanced the aesthetics of the product along with marginal cost benefits.

Responsibility: ROHS analysis

ROHS is European directive to regulate and control the amount of hazardous substances like lead, mercury, cadmium etc. in permissible limits

- Documented the material and surface treatment details of all the parts for LD-304 bed by breaking the master BOM in discrete parts.
- Analyzed the percentage of hazardous substances in material and surface treatment for the conformance to ROHS norms.
- Found alternative materials for parts failing to meet the specifications and conducted tests to meet the performance criteria.
- Accumulated the whole data in a record time by smart and hard work and was given the monthly achiever award for the same.

Academic Projects & Internship

Design and fabrication of formula style car

In my final year of engineering I took up this wonderful project of designing and manufacturing a formula style racing car. The competition organizer was SAE, the international body for automotive engineering. The race competition was to be held in Silverstone U.K.

Lead the team of 3 for the design, analysis and fabrication of formula style car Chassis

- Studied the safety norms and regulations to build a safe and acceptable design.
- Benchmarked with our previous chassis designs and other foreign team by collaboration on the forum.
- Designed the fuel tank by optimal use of the space available and manufactured it using the glass fiber raisins in house.
- Chassis being the base for all the parts in a vehicle I overcame the challenge of fitment of various car parts by effective communication and co-ordination.
- Analyzed the final chassis design on ansys multi physics by plotting the points of space frame. I performed the iterations using beam elements that made iterations faster and also economical for the limited available infrastructure.
- Fabricated the space frame by cutting the pipes and making the end joints.
- Physically tested the torsional rigidity of the space frame by loading it on a fixture and measuring the deflection on a dial gauge.
- Tested the vehicle for optimizing the vehicle dynamics and made modifications to the design based upon the feedback from the tests and re cycled the fabrication process.
- The project was finally approved for racing on Silverstone circuit. 32nd position was secured out of 110 teams. This was the so far best performance by any Indian team.

Semester Internship

Organization: Bhart Heavy Electricals Limited, Haridwar.

Project undertaken: Design of Shell and Pipe Heat exchanger using HTRI (heat exchanger design tool)

- Mathematical calculations were performed for heat generation rate in lubricating oil of 500 MW steam turbine and mass flow rate of coolant (water).
- Iterative method was used to reach optimum solution. The proposed design was approved to be used in Singrauli (M.P) 500 MW thermal power plant.