**ISHAN SHARMA**

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I seek for an internship wherein I could leverage my strengths and proficiency to contribute to accomplishing the research objectives of the organization by my deliverables.

**EDUCATION**

**MASTER OF SCIENCE(MS) – Mechanical Engineering** August 2019 – August 2021

Clemson University 3.66/4

**BACHELOR OF TECHNOLOGY – Mechanical Engineering** July 2014 – November 2018

University of Petroleum and Energy Studies (UPES) 76.6%

**Linux World Informatics Private Limited**

Research Intern| ML & Big-Data Integrated Product-Development **|December’18 – July’19|**

**Responsibilities include -**

* The responsibilities include *leading* a project related to the *power sector and Supply chain Industry* and *collaborate* with the fellow group of interns.
* In the first project, I was responsible for *developing an RTM analysis* to address the requirements of the given product.
* To effectively lead the *conceptualization & concept evaluation stage*, I was also responsible for preparing the decision matrix to select the given concept effectively.
* Completed Official Redhat Ex200 (RHEL7.5/8) and Ex407 (Ansible Automation)
* Deployed CAAS, PAAS, and IAAS using VNC.
* Created playbooks for basic tasks on host nodes using Ansible as the configuration management tool.
* Developed an RPA for the given tasks using Shell Scripting in RHEL7.5 using a collaborative programming platform.
* In the second project, I was responsible for *conceptualizing damage prevention strategies* during transportation. The concept addressed the given problem by using the *fundamentals of natural frequency* *and vibrations*.

*As an outcome, an effective predictive decision making and capacity planning model using Machine Learning and Deep Learning technique was duly established for both the projects incorporating process automation tools.*

**Fiat Chrysler Automobiles (FCA) Engineering India**

Research Intern | Engine Systems (Product Development Division) **| May`17 – August`17 |**

**Responsibilities include -**

* Under the product development division, I was responsible for subsisting my supervisor for the *development of various components* on the aspects of *'Design for Manufacturing.'*
* I was also responsible for contributing towards *structural design analysis and optimization* of various sub-components of the Engine Systems.
* I was also responsible for *deriving design variables and constraints* to be benchmarked in the given design of WCAC for the forthcoming APAC models.

**Aerosphere Private Limited**

Research Intern |CAE (Structural Design) Division **| April`16 – April`17 |**

**Responsibilities include –**

* I was responsible for carrying out *structural design trade-off studies* and derive *design analogies* for various assignments in references.
* In the project, I was responsible for carrying out a structural *design analysis of the steam turbine blade* using *reverse engineering principles* under the *fluid-structural interaction scheme*. Under the analysis scheme, *fatigue character* was analyzed.
* I subsisted for the *product life cycle estimation* and *prognostic maintenance* plan for the given design.

**PROJECTS UNDERTAKEN**

* **Comparative Structural design analysis of different types of fuselage geometry**
* Under the project, different types of fuselage constructions like - monocoques and semi-monocoque types of fuselage-construction were analyzed using FEA based on different structural properties for a narrow-body aircraft.

***Further, a preliminary design analysis on the lines of 'Ease of Manufacturing' was developed for the reference geometries.***

* **Structural Design analysis and topology optimization of the nose landing gear of an aircraft.**
* Under the given project, a nose landing gear was designed for commercial passenger aircraft. The design was then further exposed to the stipulated design loads and analyzed under the FEA scheme.
* The subcomponents of the design were optimized using a topology optimizer. Post, optimization the model was tested for the ‘linear buckling’ phenomenon.

***Further, the design was validated using Von-Misses Criterion.***

* **Preliminary system design of material pre-processing subsystem for ‘Lunar Regolith Processing Module’**
* Under the given group semester project, my team was responsible for developing a *preliminary system design* for the *material pre-processing* subsystem for the *Lunar Regolith Extraction module*.
* I was responsible for laying out *'Measures of Effectiveness' (MOE)* and *'Measures of Performance' (MOP)* for the given subsystem as per the demands of the involved stakeholders.
* I was also responsible for creating a *'Technology Assessment'* strategy for the given subsystem.
* I was also responsible for creating subsystem-level *concept evaluation* and *process evaluation* using *MOE* and *MOP*. Further, a *'Risk Assessment'* strategy using *DFMEA* was developed for the given subsystem.

**RESEARCH PUBLICATIONS**

* Bindal H. , Sharma I. , Rastogi P. (2018). Reduction and optimization of stress at the boundary of a fixed beam by using simple support. International Journal of Aerospace and Mechanical Engineering, 5(2).
* Bindal H. , Sharma I. , Rastogi P. (2018). Design and structural analysis of an off-road vehicle. International Research Journal of Engineering & Technology, 5(3).
* Sharma I., Ranjit P S, Dixit S., Pandey S., Bhurat S. and Chintala V. (2018). Experimental study on performance and emissions characteristics of single cylinder diesel engine with ethanol and biodiesel blended fuels with diesel. 7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP), December 10-12, 2018, IIT Bombay, Mumbai, India. FMFP2018 -723.
* Sharma I. , Arora K. , Dixit S. (2018). A Review of Various Ethanol Supplementation Techniques in Compression Ignition Operations on the Aspects of Performance, Combustion and Emission Characteristics. International Journal of Advance Research, Ideas and Innovations in Technology, 4(1).

**CERTIFICATIONS**

Certified Student Leader Program (2019-20) by Clemson University

Dassault Certified Solidworks Associate (Mechanical Design)

RedHat Certified System Administrator (RHCSA)

RedHat Certification of Excellence (RHCoE(Ansible))

**TECHNICAL SKILLS**

Part Modelling, Surface Modelling, Buckling Analysis, Fluid-Structure Interaction, Linear Flow Analysis (Internal & External), Thermal Structural Interaction and Topology Optimization.

* Tools Used – ANSYS, Solidworks, CATIA V4/V5 and MATLAB

**INFORMATION TECHNOLOGY SKILLS**

Machine Learning, Deep Learning, ANN and Parallel Computing (HDFS & MRC Deployment)