Siddhesh Shailesh Rajput

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EDUCATION

Master of Science in Mechanical Engineering (GPA: 3.78/4.00) **May 2019**
The University of North Carolina at Charlotte, Charlotte, NC

Bachelor of Engineering in Mechanical Engineering (CGPA: 7.23/10.00) **May 2017**
University of Mumbai, Mumbai, India

Relevant Coursework: Discrete Mechanical Vibrations System, Design of Machine Elements, Material Technology, Finite Element Analysis, Machine Tool Metrology, Advanced Manufacturing Processes and Equipment

SKILLS

- **Software**: Creo Parametric (Pro/Engineer), CATIA V5, ANSYS, ABAQUS, SolidWorks, AutoCAD, Autodesk Inventor, MATLAB, Optimum Kinematics, Lotus Suspension Analysis
- **Computer Skills**: Microsoft Office (Excel, Word, PowerPoint, Project)
- **Fabricating skills**: CNC Machining (G&M codes programming), Welding (Arc, TIG, MIG), Cutting, Grinding, Drilling and Milling

CERTIFICATIONS

Six Sigma Green Belt Online Course	SolidWorks with GD&T Certification	CATIA V5 with GD&T Certification
Sheet Metal Forming	3D Printing & Application	

LEADERSHIP AND CAMPUS EXPERIENCE

Suspension Department Head, Team DJS Kronos India, BAJA STUDENT INDIA **March 2015-February 2016**

- Led the sub-team of 7 students out of the team of 30 to improve the design for manufacturability, cost and weight of the components. Reduced the overall weight of the system by 40 lbs.
- Designed and modeled steering upright and double wishbone suspension system to improve machinability on SolidWorks. Performed finite element analysis, dynamic analysis to improve life cycle and reduced stress by 20 % on ANSYS Workbench.
- Generated bill of materials (BOM) and design failure mode and effect analysis (DFMEA) report. Communicated within the sub-team to achieve the goal in time as per scheduled project plan. Collaborated with other sub-teams to design for assembly.
- Team secured **8th** position overall and **1st** in Maneuverability event in BAJA STUDENT INDIA 2016.

Member, Team DJS Kronos India, BAJA STUDENT INDIA **March 2014- February 2016**

- Performed design calculations of spring, modeled spring-mass-damper system and selected optimum shock absorber.
- Designed and fabricated double wishbone suspension on SolidWorks. Drafted 3D & 2D CAD into drawings using geometric dimensioning and tolerancing (GD&T).

ACADEMIC PROJECTS

Vision Inspection System: Graduate Design Project, Schaeffler Group USA **August 2018 - Present**

- Designed CAD models of various components of the mechanical and sorting sub-system using Creo Parametric (Pro/Engineer) to incorporate within the assembly. Prepared 2D and 3D drawings using geometric dimensioning and tolerancing (GD&T).
- Chose quality material to reduce cost by 60%. Performed manual stress/strain calculations on the parts and finite element analysis on CAD models on ABAQUS to evaluate von Mises Stress and deformation.
- Generated purchasing orders and bill of materials for the mechanical and sorting sub-system.
- Communicated and coordinated with team members, mentor and industry supporter to deliver the parts of the product in time.

Time Domain Simulation: Discrete Mechanical Vibrations Project, UNC Charlotte **December 2018**

- Analyzed a time domain using Euler Integration on MATLAB to solve equation of motion of 1- DOF forced vibration system.
- Identified the magnitude versus frequency behavior of the system and compared the plots of frequency response function magnitude in frequency domain and time domain.

Analysis of a bar fixed at one end: Finite Element Analysis Project, UNC Charlotte **May 2018**

- Developed a MATLAB code for one-dimensional analysis of a bar fixed at one end and free at left end to take user input and perform modal analysis using Gauss Quadrature rule and dynamic analysis using a Heaviside function.
- Determined the natural frequencies using Exact method and lumped mass matrix formulation to compare the eigenvalues.
- Analyzed the cause of error, calculated and plotted the displacement and stress values in the time loop for dynamic analysis

CNC machining of a spur gear: Gear Manufacturing and Metrology Project, UNC Charlotte **May 2018**

- Designed a spur gear as per ISO 21771 standard with a CNC part program using G&M codes. Measured and generated reports for roundness, profile, lead and pitch errors and deviation on simulation software- Quindos.
- Machined the part on a 5-Axis CNC Milling machine using the developed program and measured part features on CMM.