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: Finite Element Analysis, Project Management, Design of Machine Elements, Theory of Elasticity, Machine Tool Metrology, Machine Design, Engineering Metrology, Mechatronics, Advanced Manufacturing Processes and Equipment

SKILLS

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

CERTIFICATIONS

SolidWorks with GD&T Certification | CATIA V5 with GD&T Certification | Six Sigma Green Belt Online Course
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 – May 2019**

- Designed CAD models of various components of the electro-mechanical 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 electro-mechanical sub-system. Handled 3D printing operation.
- Communicated and coordinated with team members, mentor and industry supporter to deliver the parts of the product in time.

Wire Drawing Simulation for Advanced High Strength Steels: **December 2018**
Advance Manufacturing Processes and Equipment Project, UNC Charlotte

- Simulated the wire drawing process including friction for DP 350/600 AHSS on MATLAB using a developed code.
- Extrapolated the data for input parameters to calculate the drawing stress and die press and plot them against drawing distance. Calculated the maximum friction value before the drawing operation fails.

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.