
Sachin Choudhary
(573) 466-6042 • sc35w@mst.edu

EDUCATION

PhD Candidate in Mechanical Engineering (GPA: 3.67) Aug 2018-Present
Missouri University of Science and Technology (Missouri S&T)

Bachelors of Technology in Mechanical Engineering (GPA: 4.0)
National Institute of Technology, Kurukshetra, India May 2014

RESEARCH EXPERIENCE

Graduate Research Assistant
Department of Mechanical Engineering,
Missouri S&T

2018-Present

- Fabrication of ceramic parts using material extrusion based additive manufacturing.
- Design, fabrication, programming & implementation of Material Extrusion based 3D printer.
- Studying drying behavior in additively manufactured ceramics green bodies to increase 3D printing speed & increase the quality of parts.
- Collaborate and coordinate with faculty, staff scientists, and fellow graduate students across departments.

Graduate Teaching Assistant 2018-2020
Department of Mechanical Engineering, Missouri S&T

- Guiding senior design team towards making a universal gearbox for Orscheln.
- Helping the student in planning, mathematical analysis, simulations, presentation, solid modeling, and prototyping and casting off the doubts regarding the project.
- Teaching Mechanical Engineering Systems Lab and guiding them to complete novel experiments to validate engineering and science theories and mathematical model of physical processes and systems.

INTERNSHIP EXPERIENCE

Escorts Agri Machinery Group, Faridabad, Haryana, India (Summer 2012)

- Plant tour & study: I got an overview of the complete manufacturing cycle and quality check process flow for Tractor Engine.
- Study on Engine block machining parameters and generated proposals to optimize the process to be faster and ergonomically better.
- In depth study of the whole assembly and testing procedures involved in making Farmtrac tractors.

MECON Limited, Ranchi India (Summer 2013)

- Plant tour of Rolling Mills, Casting and Iron Manufacturing.
- Gear Box Design : Factors considered in Gear Box Design i.e. Torque, Factors of safety, Thermal Ratings, Gear ratio etc., selection of Gears, Selection of cooling process and selection of Gear Box.

SKILLS

- **Languages:** C, MATLAB, HyperMath, ANSYS, Python.
- **Linux CNC.**
- **Tools:** Catia, Comsol Multiphysics, Flex PDE, UGNX, MATLAB, HyperMesh, MATHEMATICA, Abaqus, Nastran, PFC3D, Solidworks
- Data wrangling over the years for my industry projects in R & D and projects in research.
- VBA excel programming to automate millions of failure calculations.
- Excellent data visualization and communication skills acquired during interaction with a broad category of clients and coworkers over the total seven years of diverse experience.

PROFESSIONAL EXPERIENCE

Engineering Analyst
Oceaneering, India

2016-2018

- Ride vehicle chassis frame analysis for strength and fatigue for design decisions using ANSYS. Strength & durability analysis & validation of ride vehicles used in Disneyland amusement parks.
- Multibody dynamics simulation of Robotic Dinosaur body frames in order to determine various joint loads for universal studios.
- Leading and working with a team of designers and manufacturers to deliver the best design possible for the 21st century Disneyland and Universal studio rides with regards to structural safety.

Assistant Manager (R&D)
Maruti Suzuki India Limited

2014-2016

- Leading the simulation group to communicate and work with manufacturers, design engineering teams, shop floor and testing teams to analyze value and generate Value optimization proposals using the CAE (Simulation) tools to improve the chassis design of passenger cars.
- Finite element modeling, simulation & analysis of chassis components of a passenger car manufactured at Suzuki, India.
- Strength & Durability analysis & validation of chassis components.
- Generation of design proposals for the chassis components of a car for value analysis & optimization.
- Database for CAE Finite Element Models for Chassis Parts: Front Suspension Arm, Front Suspension Frame, Rear Axle Torsion Beam, and Brake Disc Dust Covers for various Maruti Suzuki Car Models.
- Rear Axle Torsion Beam Finite Element Analysis for test simulation and verification and Proposal Generation for design improvements.
- Brake Pipe Clamps Finite Element Analysis for design verification and weight reduction.
- Front Brake Dust Cover Modal Analysis for Natural Frequencies to bring necessary design changes for noise reduction.
- Front Brake Caliper Assembly Finite Element Analysis for test simulation using contact Analysis in Abaqus for test correlation.
- Disc Brake Structural Integrity Test simulation using Hypermesh and Abaqus for test correlation.
- Design optimization of parking brake clamps.
- Design of experiment in hyperstudy for rear axle stiffness study with beam parameter variation.

Awards and Extra Curricular Activities

- GATE (Graduate Aptitude Test in Engineering) 2014: Rank 1327 out of 185578 Mechanical engineering Students appeared All India.
- Ranked among top 15 in Department of Mechanical Engineering at NIT Kurukshetra in the batch of 139 students.
- All India Rank 5811 in AIEEE (All India Engineering Entrance Examination) 2010 among 1.1 Million (approx.) students appeared.