SUDARSAN SRINIVASAN

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SUMMARY

MS Mechanical Engineering student with 3.5+ years of industry experience in mechanical design, CAD modeling, FEA, and DFM/DFA. Proficient in product design optimization, GD&T, CAE analysis, and DFM/DFA for high-volume manufacturing. Strong problem-solving abilities, attention to detail, and cross-functional collaboration to drive engineering solutions.

EDUCATION

University of Washington, Seattle, WA *Expected August 2026*
Master of Science, Mechanical Engineering (Controls, Mechatronics & Robotics) *GPA: 3.92*

National Institute of Technology, Trichy, India *Graduated June 2020*
Bachelor of Technology in Mechanical Engineering (Minor: Electrical and Electronics)

EXPERIENCE

Mechanical Design Engineer | Bajaj Auto Limited, India *January 2021 - July 2024*
Ranked in the top 10% of performers among 100+ engineers

- Led design and development of aluminum castings, plastic covers, sheet metal brackets, and cylinder head gaskets for ICE and EV platforms, adhering to regulatory norms, styling, DFMEA, and production feasibility for high-volume production
- Produced detailed 3D CAD models and 2D drawings with GD&T using Siemens NX, ensuring tight tolerance control and manufacturability; managed product lifecycle using Siemens Teamcenter
- Conducted 20+ FEA simulations (ANSYS, HyperView) for structural and sealing performance optimization
- Automated gasket CAD modeling and validation using NXOpen scripts, cutting design cycle time by 76%
- Spearheaded VA/VE initiatives optimizing wall thickness/rib layout (11% weight saved) and adopting alternative low-cost solutions, saving $15,000+/year
- Collaborated cross-functionally with suppliers and manufacturing teams on DFM/DFA reviews, tooling readiness, and design optimization

PROJECTS

Autonomous Cleaning Robot, Boeing Advanced Research Collaboration, UW *December 2024 - Present*

- Leading mechanical design of an autonomous cleaning system, integrating rotating brush, squeegee, and drive modules for effective debris removal
- Supporting integration of mechanical components with electrical systems for overall system functionality and testing

Safe End-Effector Trajectory Tracking for 3-DOF Robotic Arm, UW *March 2024 - Present*

- Designed a Control Lyapunov & Control Barrier Function-based QP controller to ensure safe and stable trajectory tracking under constraints.
- Modeling robot kinematics and dynamics in MATLAB/Simulink to validate control strategies through simulation

INTERNSHIPS

Ashok Leyland, India *June 2019 - July 2019*

- Updated SOPs for 20+ engine assembly stages to meet new emission standards, improving documentation clarity
- Investigated ABS defect trends in 150+ vehicles using Pareto analysis, identifying sensor-related issues and recommending early-stage testing in the assembly line to increase pass rates

Rane - TRW Steering Systems, India *June 2018 - July 2018*

- Designed and implemented a specialized oven trolley using SolidWorks, increasing production output by 61% per shift
- Streamlined the drop-arm painting process by eliminating non-value-adding activities, enhancing throughput through Lean Manufacturing principles and process optimization

TECHNICAL SKILLS

CAD & Simulation: Siemens NX, SolidWorks, CATIA V5, AutoCAD, ANSYS Mechanical, HyperWorks
Design & Manufacturing: GD&T, Tolerance Analysis, DFM/DFA, 2D Drawings, 3D modeling, DFMEA
Fabrication: Machining, 3D Printing, Prototyping, Die casting, injection molding
Programming, Automation & Analysis: MATLAB, Simulink, Python, C++, ROS, PLC Programming, Tableau
Electrical & Controls: Sensor integration, pneumatic systems, microcontrollers (Raspberry Pi, Arduino)
Software & Collaboration: Siemens Teamcenter PLM, Microsoft Office Suite

CERTIFICATIONS

Certified SolidWorks Professional (CSWP)