Srikanth Uppiretla

Mechanical Design | CAD/CAE | Engineering Documentation

German B2 | English C1 | Bremen, Germany

Status Available immediately | in Germany on a job seeker visa | open across Germany

Contact
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Profile

Mechanical and space engineering profile with hands-on experience in CAD/CAE, FEM and technical documentation. The core fit is mechanical design support, structured load assessment, prototype work and simulation-oriented geometry preparation for engineering development tasks. Experience at Rocket Factory Augsburg and ASTRA e.V. connects CAD surfaces, NX Nastran/FEMAP, CFRP structures, manufacturing awareness, quality review and clear engineering documentation.

Professional Experience

Apr 2024 – Jun 2025

Structural Analysis and Optimization of CFRP Interstage

Rocket Factory Augsburg AG, Augsburg, Germany

- Developed a Python-based optimization framework for stiffened CFRP cylindrical shells under axial compression.
- Evaluated design variables such as skin thickness, stringer spacing, ring spacing and stiffener arrangement for lightweight structures.
- Validated finite element models in FEMAP and NX Nastran using composite layups, shell elements and realistic load assumptions.
- Compared analytical buckling checks with linear and nonlinear FEM results to support robust engineering design decisions.
- Documented assumptions, technical results and optimization steps clearly for engineering reviews and traceable decisions.

Jan 2024 – Mar 2024

Structural Analysis Intern / Working Student

Rocket Factory Augsburg AG, Augsburg, Germany

- Analyzed a LOX tunnel under axial and radial pressure using FEM and structured load assessment.
- Identified stress hotspots and evaluated dome inversion risks for technical reviews in a development environment.
- Created CAD surfaces for FTS simulations and supported simulation-oriented integration planning.
- Assessed transport jigs and pusher mechanisms under critical loads for mechanical functional reliability.
- Connected analysis, CAD-oriented geometry work and documentation in practical engineering tasks.

Aug 2022 – Dec 2023

Composite Structural Engineer

ASTRA e.V. (Rocketry Group), Bremen, Germany

- Designed and fabricated a filament-wound CFRP outer shell for a student sounding rocket.
- Defined winding angles, mandrel geometry and ply layup for a manufacturable composite structure.
- Supported fabrication, curing and quality control to review part quality during the project.
- Performed FEM simulations under internal pressure and used the results to improve the laminate design.
- Worked at the interface of design, manufacturing, analysis and quality review within the rocket team.

Selected Projects

Jun 2016 – Jul 2017

Design and Fabrication of a Four-Wheel Steering System
Bachelor Project

- Designed and built a working mechanical prototype with front-, rear- and four-wheel steering modes.
- Translated the steering concept into a mechanical prototype considering motion, assembly and functional behaviour.
- Combined design, fabrication, assembly and functional testing in a hands-on mechanical engineering project.
- Demonstrated the prototype as proof of concept for multiple steering configurations.

Apr 2023 – Dec 2023

System Design Study of a Main-Belt-Comet Micro-Lander
DLR / University Project

- Selected a baseline concept for a small-body lander with a model payload.
- Structured the concept evaluation around feasibility, practical implementation and key engineering trade-offs.
- Compared concept options from a systems-engineering perspective, considering payload needs and mission practicality.
- Documented technical decision logic for the selected micro-lander concept.

Mar 2022 – Apr 2022

Concurrent Engineering Project
DLR / University Project

- Researched payload and camera-system options for CubeSat applications.
- Compared candidate options for mission suitability, integration relevance and technical feasibility.
- Contributed technical input to multidisciplinary design reviews.
- Linked payload research with system-level design discussions in a concurrent-engineering setting.

Education

2020 – 2025

M.Sc. Space Engineering
University of Bremen, Germany

- Master's thesis: Structural Analysis and Optimization of CFRP Interstage of an Orbital Launch Vehicle.

2013 – 2017

B.Sc. Mechanical Engineering
LP University, India

- Bachelor project: Design and Fabrication of Four Wheel Steer.

Technical Skills

CAD / Design: CATIA V6, Siemens NX, Autodesk Inventor, CAD surfaces, mechanical prototyping.
FEM / CAE: NX Nastran, FEMAP, ANSYS, linear FEM, nonlinear FEM, strength assessment, buckling assessment.
Programming / Tools: Python, MATLAB, LaTeX, MS Office.
Manufacturing / Documentation: CFRP structures, filament winding, manufacturing support, quality control, technical documentation.

Languages

English C1 | German B2 | Hindi fluent | Telugu native