Sri Sai Prakash Reddy

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Education

University at Buffalo, SUNY Buffalo, NY
Master of Science in Aerospace Engineering Feb 2023

- Relevant Coursework: Advanced Aerostructures, Theory of Materials, Spacecraft Design, Finite Element Analysis, Mechanical Properties of Materials, Modern Theory of Materials, Polymeric Biomaterials

Sir M. Visvesvaraya Institute of Technology Bangalore, India
Bachelor of Science in Mechanical Engineering August 2021

- Relevant Coursework: Strength of Materials, Product Life Cycle management, Design of Machine Elements, Machine tools and Operations, Operations Research, Material Science, Management and Engineering economics

Work Experience

Beacon Industries Inc. (Aerospace) Newington,CT
Design/Structures Engineer- R&D June 2023-Feb 2024

- Primary PoC for experimental/technical operations. Research on advanced manufacturing processes/techniques and next-gen materials (CMCs/Cf/SiC) for potential use-case scenarios for the military and DoD.
- Lead Engineer in DMLS 3D-printing of classified aerospace components involving 716 steel and Ti-64. Trained and acquired well over 100+hours in operation of EOS-M290 DMLS printer.
- Created new-age organic and integrated-fixture designs for external satellite structures and mechanisms using DfAM principles.
- Collaboration with researchers for next-gen power converters for space architectures and devices involving space sustainability.
- FEA analysis and simulation of an experimental, patent-pending low-power turbine using Ansys.

R&D/Production Engineer May -June 2023

- Supervision of a medium volume production line involving thermal power generation turbine components (for GE Power, Siemens Energy etc.) to ensure optimal process flow.
- Components made of 300/400 series steel, RENE 88, Inconel 718 & Titanium.
- Analysis of machine drawings to try and improve production efficiency while being part of the NPI (New Product Introduction) team.
- Creation of 3D models using Siemens NX for test pieces, while ensuring conformance with ASME Y14.5 standards.
- Hands-on experience and in-charge of finishing and NDT methods such as MPI (Magnetic Particle Inspection) and chemical etching.

Starya Mobility Pvt. Ltd (EV Start-Up) Bangalore,India
Design Engineer March 2021-July 2021

- 3D-Modelled and made design iterations for various (patent-pending) chassis, product life-cycle testing, and created drawings for components of the chassis using Solidworks and Inventor. Simulations and topology optimization of models using the Altair Suite. Dimensional, casting and machining drawings were done using AutoCAD and Solidworks (DFM/DFA). Management through Solidworks PDM.
- Created and tested various battery pack enclosures for retrofitting into existing 2-wheeled mopeds.
- Part of 4-member team responsible for creating a patent-pending universal chassis that can fit into any of the existing mopeds.
- Created casting/dimensional models using standard GD&T for said chassis as well as BOMs for manufacturing.
- Part of 3-member team responsible for designing an entirely new CVT (Continuously Variable Transmission).

Defence Research and Development Organization (DRDO). Bangalore,India
Intern, Structural Design Jan 2020-Feb 2020

- Obtained and ran thermodynamic calculations and cost analysis on specific military UAVs to obtain the most ideal solution to mitigate high altitude icing problems faced by the UAVs during operation.

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Project Experience

University at Buffalo, CRASH Lab Buffalo,NY
Design, Modelling & Materials Jan 2022-Feb 2023

- Designed Modular Rover involving novel locking/docking mechanism for autonomous lunar excavation and transportation as part of NASA's Break the Ice Lunar (BTIL) challenge.
- Modelling of payload system for NASA TechLeap competition involving topology mapping of the lunar surface (the dark side)
- Part of the Big Idea Challenge (NASA) team involving design of a lunar forge utilizing lunar regolith to extract metals.
- Design of Crew Re-entry Vehicle (CRV) involving various structural loading conditions.
- Graduate project involving FEA analysis of a new spar within the wing of an experimental aircraft using Ansys / LS-Dyna.

Sir M. Visvesvaraya Institute of Technology Bangalore,India
Mechanical Department Jan 2021-Aug 2021

- Final-year project on "*Development of bio-based composites by fabrication of FRC from bamboo*".
- Paper titled "*Use of Composite Materials and Hybrid Composites in Wind Turbine blades*" presented at International Conference on Smart and Sustainable Developments in Materials, Manufacturing and Energy Engineering (SME 2020) and later published in the journal "Materials Today: Proceedings", an Elsevier publication. https://www.sciencedirect.com/science/article/pii/S2214785321018988
- "*Advancements in De-icing and Anti-icing Technologies used in Aircraft*" published in the "Journal of Aerospace Engineering & Technology (JoAET) "- http://techjournals.stmjournals.in/index.php/JoAET/article/view/986

Leadership

- Lead Research Engineer at Beacon Industries
- Graduate Assistant for Introduction to Aerospace Engineering, Manufacturing Processes and Design Processes & Methods
- Campus Representative for Under25 (India's Largest Youth Organization)
- Team Lead for UG University Athletics and University Quizzing

Skills/Organizations

Technical: Solidworks, Siemens NX, Abaqus, Inventor, AutoCAD, Ansys, Fusion 360, PTC Creo, SolidEdge, Catia V5, EOSPrint.
(Certificate : Creo for Design Engineers – Issued by PTC -Credential ID PTC469-0063)
Language: English (Full professional fluency), South Indian Languages (Working fluency)
Organizations: ASME