Santosh Dasari

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Education

San Jose State University — Expected Graduation in May 2025
B.S. Biomedical Engineering — *San Jose, CA*

Relevant Courses: Statics & Biomechanics of Solids and Visco-elastic Materials, CAD Design, Mechanics of Materials, Engineering Probability & Statistics, Fluid Dynamics, Med Device Product Development, FDA Regulation, Python for Hardware, Med Device Manufacturing, Biomedical Polymers, Design of Society

Relevant Experience

Stealth Factory Automation Start-up — Oct 2023 – Dec 2023
System Design Contractor — *Fremont, CA*

• Developed product requirements and system design for a remote-controlled factory vehicle to meet customer needs and demonstrated its value to investors.
• Created job descriptions and recruitment guidelines to enable non-technical founder to hire high value engineering staff

Silk Road Medical — May 2022 – Aug 2022
R&D Intern — *Sunnyvale, CA*

• Reduced process time by 15% through running a process experiment and writing a particulate quantification standard
• Created detailed & repeatable cleaning process for laser-cut Nitinol implants, meeting assembly and sterilization particulate spec
• CAD designed and manufactured a fixture for securing implants during cleaning, with press-fit tolerances and mill/lathe DFM
• Aligned efforts among vendors, suppliers, and contract manufacturers to ensure compatibility within final assembly line

Carl Zeiss Meditec — May 2021 – Aug 2021
Mechanical Engineering Intern — *Dublin, CA*

• Assessed cantilever failure in an optometry device under 25G freight loads, implemented design changes to redistribute stress, and switched to a high-strength steel alloy, increasing FoS by 25%.
• Analyzed failure patterns in returned optometry devices subjected to freight loads, identifying stress concentration zones and deflection in parts.
• Conducted a two-stage assembly-level FEA informed by failure analysis to pinpoint stress concentration regions further, providing critical insights into part failure.
• Designed and built a custom test fixture for bench-top load testing, achieving validation of FEA predictions and ensuring design reliability.
• Supported dust ingress and G-force testing, confirming product robustness under diverse operational environments.

Projects

In-Vitro Pulsatile Blood Flow Thrombogenicity Tester — Aug 2024 – Present
Capstone Project (Team Lead) — *San Jose, CA*

• Redesigned an electromechanical and biocompatible testing rig to replicate human heart flow patterns in a closed blood loop
• Coordinated stakeholder feedback to identify shortcomings in previous design, aiming to reduce setup time by 50% via DFA optimization
• Python and C++ to develop a precise motor control algorithm and user interface for accurate flow patterns and ease of use
• Collected and analyzed flow rate data against physiological data using statistical tests to validate tester efficacy

SJSU Robotics — March 2021 – May 2023
President and Mechanical Subsystem Lead — *San Jose, CA*

• Directed cross-functional teams to develop a Mars rover robot, overseeing Mechanical, Controls, Electrical, Biology/Geology, and Autonomy
• Designed and manufactured a field-deployable Raman spectroscopy system for real-time geological mineral detection.
• Oversaw mechanical design reviews for clearance, electrical/controls compatibility, mechanical performance, and user needs
• Supported overall robot development by performing soldering, wiring, mechanical assembly, system testing, and validation

Skills

CAD & Design: SOLIDWORKS (CSWA), GD&T (ASME Y14.5 Certificate) On-shape, PDM, 2D Drawings, DFMA
Simulation and Analysis: SolidWorks FEA, COMSOL, Minitab, Excel
Manufacturing: Machine Shop Training (Lathe, Mill), 3D Printing, Laser Cutting, Water Jet, Rapid Prototyping
Electronics & Software: Soldering, Wiring, Microcontrollers, Arduino, LabVIEW, Python, MATLAB, HTML, C++