

# Sujal Bobba

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## EDUCATION

### University of California-Berkeley

Master of Engineering in Mechanical Engineering

August 2025 - May 2026

GPA: 4.0

### University of California-Irvine

Bachelor of Science in Biomedical Engineering | Minor in Materials Science

September 2021 - June 2025

GPA: 3.9

- Honors: *Magna Cum Laude*, 12x *Dean's Honor List*, UROP 2022 Research Grant, UROP 2024 Research Grant

## SKILLS

**Design & Manufacturing:** SolidWorks, Prototyping, 3D Printing, Machine Shop, Engineering Drawings

**Manufacturing Engineering:** Process Validation, DFM, GD&T, Tolerance Stack Analysis, FMEA analysis, Test Method Development

**Quality Systems and Data Analysis:** ISO 13485, 21 CFR, GMP, CAPA, ECOs, Minitab, PLM(Windchill, ETQ Reliance)

**Software/Programming:** MATLAB, Java, LabVIEW, Arduino, 3D Slicer, Microsoft Office and Word, Excel

## PROFESSIONAL EXPERIENCE

Manufacturing Engineering Intern | *Stryker*

June 2025 - August 2025

- **Optimized a manufacturing test process** by redesigning a pressure leak tester for large-bore syringes, improving reliability and reducing operational cost by **\$45,000/ year**
- Designed and **implemented electromechanical components (timer relays, latching relays, switches, actuators, control valves)** to automate syringe leak testing, increasing measurement accuracy, repeatability, and production throughput
- **Designed a CAD tooling fixture** using design for manufacturability principles to improve ball bearing insertion time, accelerating braider plating assembly for a proprietary **11,000+ component** vertical braider
- Supported manufacturing operations through troubleshooting, root cause investigation, and continuous process improvement

R&D + Process Engineering Intern | *Terumo Neuro*

September 2024 - May 2025

- **Developed and refined manufacturing processes** supporting NPI builds of the Azur Vascular Plug through data-driven evaluation, improving dimensional yield, cycle time, and manufacturability
- **Designed a custom braid shaping fixture in SolidWorks**, reducing part-to-part variation by **70%**, and improving braid uniformity for enhanced catheter delivery
- Performed process validation through **Instron compression testing** to establish manufacturing readiness
- Created controlled engineering drawings to support manufacturing and ensure consistent process reproducibility, including updates released via **Engineering Change Orders (ECOs)**

Quality Engineering Intern | *Microvention-Terumo*

June 2024 - September 2024

- **Validated 12+ equipment software systems** and custom software projects, ensuring compliance with ISO and FDA standards
- **Wrote 8 verification protocols** while collaborating cross-functionally with Quality, Document Control, IT, Operations, and R&D
- Produced **40+ SDLC documents**, including validation plans, IQ/OQ protocols, and software risk assessments, supporting audit readiness
- Updated software quality procedures (SOPs, WIs, change forms) in Windchill and ETQ Reliance to maintain QMS compliance

R&D Engineering Intern | *Sutra Medical*

January 2024 - June 2024

- Supported the development of a **transcatheter mitral valve replacement (TMVR) medical devices**, assisting in **4 animal studies**
- **Designed experimental setups in SolidWorks** to replicate in vivo cardiac conditions using custom clamps and fixtures
- Performed **tensile testing** and data analysis to evaluate valve structural integrity post-implantation
- Segmented **100+ CT scans in 3D Slicer** to create cardiac models for preclinical planning

## PROJECTS

Team Lead | *Humanoid Hand Project*

September 2025 - Present

- **Led** a 4 person cross-disciplinary engineering team in collaboration with UC Berkeley's Embodied Dexterity Group and GM to develop a **next-generation linkage-driven robotic hand** for automation applications
- **Designed** and validated an underactuated 3-DOF, linkage-based finger mechanism in **SolidWorks**, optimizing durability and adaptive grasping performance under repeated loading.
- Managed project timelines, milestones, and task delegation to ensure consistent progress and on-schedule prototype iterations

Technical Lead | *Non-Compressive Cervical Collar*

September 2024 - June 2025

- **Led** design efforts for a cervical collar intended to reduce traumatic brain injuries, securing **\$7,500+** in competitive business funding
- **Designed a chin piece using SolidWorks** to minimize the applied load while enhancing patient comfort and clinical usability
- Delivered a final prototype achieving **0% jugular vein compression** and up to **75% improved restriction of cervical motion**