

# Sohan Lele

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## EDUCATION

<b>University of Pennsylvania (GRASP Lab)</b> <i>MSE in Robotics</i>	Aug. 2025 – May 2027 Philadelphia, PA
<b>University of California, San Diego</b> <i>BS in Mechanical Engineering, Specialization in Robotics and Controls</i>	Sep. 2021 – Jun. 2025 La Jolla, CA

## EXPERIENCE

<b>IRIX   <a href="https://tryirix.com">tryirix.com</a></b> <i>Co-Founder &amp; CEO   Product Management, Wearable Software Systems</i>	Jan. 2026 – Present Remote
– Leading end-to-end product development of a smart-glasses-based software platform delivering real-time, hands-free personal training	
– Defined product requirements, system architecture, and feature roadmaps across wearable software, audio interfaces, and context-aware interaction	
– Designed wearable-first UX optimized for voice, audio, and heads-up displays under latency, power, and usability constraints	
– Coordinating pilots with hardware partners and gym operators to validate deployment feasibility, reliability, and user experience	
<b>Eversun Energy Inc.</b> <i>Mechanical Engineering Intern   Prototyping, Mechanical Design, Ergonomics, Fabrication</i>	Jul. 2024 – Sept. 2024 San Diego, CA
– Directed end-to-end design and fabrication of the Apollo X eTower alpha prototype, taking the system from concept to demo-ready hardware	
– Redesigned gas-strut lever actuation to eliminate cable fraying and improve ergonomics and reliability; featured in investor demos	
– Worked cross-functionally with engineering, design, and manufacturing teams to accelerate iteration while maintaining durability and manufacturability	
<b>SoundImaging — MRI Headphones (UCSD Senior Design)</b> <i>Product Design Engineer   Medical Devices, Acoustics, Mechanical Design</i>	Jan. 2025 – Jun. 2025 La Jolla, CA
– Designed a pneumatic headphone system enabling clear audio during MRI scans with ambient noise up to 130 dB	
– Developed modular transducer housings and gasket systems to support rapid iteration and technician usability	
– Improved signal-to-noise ratio by ~45% through material selection and acoustic testing	

## PROJECTS

<b>Steerable Needle Position Estimation — Multi-View Computer Vision (UPenn)</b> <i>Perception Systems Project   Medical Robotics, Computer Vision</i>	Aug. 2025 – Dec. 2025 Philadelphia, PA
– Designed a multi-view perception pipeline to estimate the 3D tip position of a steerable needle navigating a reflective gel medium	
– Integrated segmentation models with classical vision techniques including skeletonization, endpoint detection, and multi-view correspondence	
– Reconstructed continuous 3D trajectories from synchronized camera views and validated against a deformation model with ~7% relative error	
– Identified and mitigated failure modes related to glare artifacts, skeleton branching, and frame synchronization	
<b>Ambient AI Clinical Documentation — Human Systems Engineering (UPenn)</b> <i>Systems Design Project   AI Systems, Healthcare, Human Factors</i>	Aug. 2025 – Dec. 2025 Philadelphia, PA
– Conducted a human-systems evaluation of an ambient AI clinical documentation system in a pediatric care setting	
– Performed task analysis and workflow decomposition to identify risks related to automation bias, overreliance, privacy, and clinician trust	
– Designed a gated, human-in-the-loop workflow enforcing explicit consent, visible system status, and mandatory clinician review	
– Authored an implementation checklist specifying hardware setup, training, data governance, and feedback loops required for safe scaling	
<b>PrepCaddy — Human-Centered Hardware Design (UPenn Product Design)</b> <i>Product Design Engineer   User Research, Prototyping, Fabrication</i>	Aug. 2025 – Dec. 2025 Philadelphia, PA
– Led human-centered design process including pain-point analysis, user interviews, iterative prototyping, and validation	
– Translated qualitative feedback into mechanical design changes addressing ergonomics, stability, and workflow efficiency	
– Designed and fabricated a modular hardware system with magnetically-attached components and measured-volume staging	
– Incorporated manufacturing, material selection, and assembly constraints into final design decisions	

## SKILLS

<b>Robotics &amp; Perception:</b> Computer Vision Pipelines, Multi-View Geometry, Sensor Integration, ROS
<b>Mechanical Design &amp; CAD:</b> Fusion 360, SolidWorks, AutoCAD, Rhino 7, ANSYS
<b>Prototyping &amp; Fabrication:</b> 3D Printing, CNC Machining, Laser Cutting, Machine Shop Tools
<b>Programming:</b> Python, MATLAB, Git