

SHIVAAN SOOD

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PROFESSIONAL SUMMARY

Mechanical Engineer specializing in controls, robotics, and system automation. Experienced in diagnosing complex, cross-disciplinary problems — from embedded software integration to process optimization — and implementing end-to-end solutions. Proven communicator and collaborator through leadership roles and technical teaching, driven to translate engineering skills into impactful solutions for global systems.

EDUCATION

University of California - San Diego

March 2026

Bachelor's, Mechanical Engineering

- Specialization in Controls & Robotics; Relevant Coursework: Control Systems (MAE 143A/B), Probability & Statistics (MAE 108), Autonomous Vehicles (MAE 148), Experimental Techniques (MAE 170), MATLAB Programming (MAE 8)

PROFESSIONAL EXPERIENCE

ID Tech

Los Angeles, CA, USA

AI and Machine Learning Instructor (UCLA and Caltech)

July 2025 - August 2025

- Diagnosed and resolved technical issues in real-time while guiding students through AI/ML and embedded robotics projects using NVIDIA Jetson and Python.
- Simplified complex concepts like model training, inference, and computer vision deployment for non-technical audiences, ensuring successful project outcomes.
- Guided 22 students through data collection, embedded integration, and live debugging across hardware, software, and network layers.
- Consistently earned 95%+ parent and student satisfaction ratings and was recognized by program leads for professionalism, reliability, and high student engagement.
- Balanced technical instruction with mentorship and logistical coordination in a high-intensity, customer-facing environment.

Brains & Motion Education

San Diego, CA

Part-Time Robotics Instructor

October 2024 - April 2025

- Delivered robotics and coding instruction to K-8 students, adapting complex engineering concepts into clear, engaging lessons for diverse learning levels.
- Troubleshoot hardware and programming issues in real time across platforms like LEGO Spike, VEX, and Arduino-based systems, ensuring every team successfully completed builds.

Capgemini

Noida, India

Process Engineer Internship

August 2023 - December 2023

- Diagnosed workflow inefficiencies across multiple business units and engineered automated solutions using Microsoft Power Apps, Power Automate, and Excel VBA.
- Designed and deployed an internal application suite that cut escalation response times by 15% and streamlined cross-team communication.
- Built a VBA-driven data management tool that reduced processing time by 30% through logic automation, input validation, and exception handling.
- Collaborated with stakeholders to test, debug, and integrate solutions into live production systems, improving overall reliability and data accuracy.
- Recognized by supervisors for analytical rigor and a proactive approach to problem solving—key traits for technical implementation and customer support.

RoboClub

New Delhi, India

Head Coach — World Robotics Olympiad

June 2023 - December 2023

- Designed and implemented a robotics training curriculum emphasizing system design, coding, and real-time problem solving for student teams competing in the World Robotics Olympiad.
- Mentored and coordinated multiple teams to analyze performance issues, debug programs, and iterate mechanical designs, resulting in two rookie teams advancing to the India Nationals in their first year.
- Facilitated collaboration between software and hardware subteams, fostering structured communication and effective troubleshooting under competition time pressure.
- Recognized by program directors for technical mentorship and leadership excellence in guiding students through high-stakes, deadline-driven challenges.

Unicove Technologies Pvt. Ltd.

New Delhi, India

Quality Engineer Internship

June 2021 - July 2021

- Executed comprehensive QA testing to identify and document critical software bugs and UI/UX inefficiencies, improving overall platform stability and user experience.
- Collaborated with developers to reproduce issues, verify fixes, and deliver detailed test reports that enhanced release reliability and cross-team communication.

PROJECTS & OUTSIDE EXPERIENCE

UCSD Senior Design Project (In Progress)

San Diego, CA, USA

Maneuverable Rigid Intubating Stylet

October 2025 - Present

- Designing and prototyping a controllable intubation stylet to improve airway access during endotracheal procedures in ICU and emergency settings
- Developing a cable-driven articulation mechanism for 20° up/down tip movement with one-hand thumb control
- Conducting CAD modeling, materials selection, and manufacturability analysis for a biocompatible, single-use medical device
- Collaborating with physicians and engineers to ensure usability, reliability, and safety in high-stress clinical environments.

EnNoWait

New Delhi, DL, India

Co-Founder

April 2020 - July 2021

- Founded and led development of a patented queue-management app to reduce congestion at essential services during COVID-19; oversaw system design, UX/UI optimization, and investor presentations that improved user adoption and operational efficiency.

Team NeXT

New Delhi, DL, India

Team Captain (FIRST Robotics & World Robotics Olympiad)

May 2011 - November 2019

- Led competitive robotics teams for over 10 years, advancing to 6 international and 25+ national/regional competitions, earning 15 regional, 12 national, and 2 international awards through innovation in mechanical design, programming, and strategic gameplay.

SKILLS

AI & Computer Vision: NVIDIA Jetson Orin Nano, Tensorflow, OpenCV, RoboFlow, Model Training, Dataset Development, Inference, Real-Time Classification & Detection, CUDA

Programming: Embedded Linux, Python, Bash, C/C++, Git, Android Development, HTML/CSS, Java, ROS2, Docker, Kubernetes, JavaScript, Node.js, iOS/Swift, PHP, Excel/Numbers/Sheets, Power Automate, Power Apps

Embedded: SSH, Embedded Systems, Arduino, Raspberry Pi, Soldering

CAD & Simulation: SolidWorks, MATLAB, Fusion 360, AutoCAD, ANSYS, Simscape Multibody, 3D Printing

Fabrication & Manufacturing: 3D Printing, Makerbot, CNC, CAM, Haas Mill, Tormach Lathe, Pneumatic Systems, Welding