

# Shivam Bhardwaj

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Robotics Founder | Building the Future of Intelligent Automation

## SUMMARY

Robotics engineer and entrepreneur with **6+ years** architecting end-to-end automation systems for **Meta, Applied Materials, Amazon, and Sairdron**. Led teams, designed novel hardware-software systems, and shipped production-grade solutions across autonomous vehicles, surgical robotics, and industrial IoT. Now launching a **Robotics Engineering Lab** to accelerate AI-driven automation for the next generation of hardware companies.

## PROFESSIONAL EXPERIENCE

### Founder & Lead Engineer — Design Visionaries, San Jose, CA

Mar 2023 – Present

*Consulting for Applied Materials, Sairdron, Industrial Clients*

- **Applied Materials:** Architected web-based parametric design engine (AutoCrate) reducing design time from **2 days to <1 hour (100x speedup)**. Built intuitive GUI for automatic ASTM-compliant manufacturing drawings.
- **Sairdron:** Restructured harnessing workflows using **5S Methodology** to increase throughput. Overhauled RMA process and ERP implementation to reduce inventory discrepancies and streamline design-manufacturing feedback.
- **Metal Recycling (IIoT):** Designed and deployed laser metrology system (0.02" accuracy) integrated with cloud ERPs to automate weighing and material classification.

### Engineering Lead — Advanced Engineering Services, San Jose, CA

Sep 2022 – Mar 2023

*Led cross-functional teams for Meta & Applied Materials*

- **Meta:** Led design of forensic analysis workcell for VR/AR supply chains. Integrated **DoBot CR5** cobot with RF sensors, thermal imaging, and optical cameras for automated anomaly detection.
- **Applied Materials (AR):** Managed industrial design (Rhino3D) and fabrication of next-gen **AR Glasses** (Light Engine & Waveguide), delivering the first functional prototype to leadership.

### Senior Robotics Engineer — Velodyne Lidar, San Jose, CA

Jan 2021 – Sep 2022

*R&D Software Team Lead*

- **Amazon Scout Partnership:** Designed and fabricated early-stage sensor fusion rigs for the **Amazon Scout** delivery robot, enabling critical perception data collection.
- **Data Collection (IEAB):** Led data collection operations for International Emergency Autonomous Braking testing at AAA Concord GoMentum Station.
- **Fleet Management:** Managed 5 autonomous research vehicles. Developed C++ scripts for PTP time sync between LiDARs and embedded IMUs, improving the Vella vision stack.

### Robotics Software Engineer — Monogram Orthopedics (ARI), Austin, TX

Jan 2020 – Dec 2020

- **Surgical Navigation:** Developed core registration algorithm to locate bone structures relative to a **Kuka Robot** (Accuracy: <1mm, Latency: <2s) using OptiTrack motion capture.
- **Medical Device Compliance:** Integrated algorithms via **DDS & Protobufs**; executed Hardware-in-the-Loop (HIL) testing and generated FDA-compliant traceability matrices.

## EDUCATION

### M.S. Mechatronics & Robotics — [New York University](#)

Research: AI4CE Lab – Real-time visual localization using Deep Learning (SLAM without GPS)

### B.Tech Electronics — [I.P. University, Delhi](#)

Award: Top 3 University Projects – Developed ArduPilot-based Autonomous Drone