

# SUNNY SUNIL KHARTODE

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## PROFESSIONAL PROFILE

Mechanical Engineer with hands-on expertise in CAD design, 3D modeling, and prototype development. Skilled in AutoCAD, SolidWorks, Fusion 360, and Creo with a strong passion for mechanical product design, robotics integration, and manufacturing optimization. Proven ability to develop innovative solutions through hackathon wins and real-world engineering projects.

## EDUCATION

### B.Tech – Mechanical Engineering

VPKBIET, Baramati | Expected Graduation: 2027

## TECHNICAL SKILLS

**CAD & Design:** AutoCAD, SolidWorks, Fusion 360, Creo Parametric 12

**Mechanical Engineering:** 2D/3D Modeling, Assembly Design, GD&T, Static Structural Analysis, Manufacturing Processes, FEA, Tolerance analysis

**Electronics & Prototyping:** Arduino, Sensor Integration, Circuit Design, EMG Signal Processing

## KEY PROJECTS

### Smart Myoelectric Prosthetic Arm Prototype (2026)

- Engineered a bio-mimetic prosthetic arm using EMG muscle signals with real-time Arduino processing and optimized C++ servo control
- Reduced signal latency to near real-time response, achieving responsive gesture-based control with 5+ finger articulation
- Designed mechanical structure and finger assemblies using Fusion 360, integrating structural analysis for load-bearing capacity

### Autonomous Water Cleaning Robot – Hackathon Winner (3rd out of 50+ teams) (2025)

- Designed low-cost robotic structure and mechanical assemblies for autonomous water body cleaning application
- Created dual CAD prototypes and presentation models demonstrating feasibility and design optimization
- Winner of Kumbh Hackathon** for innovative approach to environmental sustainability through robotics

### Arduino-Based Drone Prototype (2024)

- Built and programmed functional drone platform using Arduino microcontroller with integrated sensor suite
- Developed flight stabilization circuits and control algorithms for autonomous operation

### Design & Analysis of Mechanical Components (2023-Present)

- Developed detailed 3D models and assemblies using SolidWorks and Fusion 360 for complex mechanical systems
- Conducted static structural analysis to validate load-bearing capacity, stress distribution, and safety factors

## CORE COMPETENCIES

Problem-Solving | Mechanical Design | Prototyping & Testing | 3D CAD Modeling | Structural Analysis | Robotics Integration | Team Collaboration | Manufacturing Knowledge

## PROFESSIONAL CERTIFICATIONS

- AutoCAD Certification – Internshala / Skill India
- AutoCAD Certification – Ascent Softech (Offline Training)
- Creo Parametric 12 – Internshala / Skill India
- Drone Technology Workshop – C-DAC
- Arduino Workshop – Bharat Forge & VPKBIET