



SHRINATH S. MAKONE

MECHATRONICS ENGINEERING | ROBOTICS | ROS2 | IOT | EMBEDDED SYSTEMS

PROFESSIONAL SUMMARY

Results-driven Mechatronics Engineering student with hands-on experience in robotics, embedded systems, and computer vision. Skilled in STM32, ROS 2, Python, and OpenCV, with experience in developing AGV systems, robot simulation, and automation projects. Demonstrated ability to design and implement real-time engineering solutions, with a strong interest in robotics, industrial automation, and intelligent systems.

EDUCATION

B. Tech in Mechatronics Engineering

Sanjivani College of Engineering, Kopergaon, Maharashtra

- Present (Expected Graduation: May 2027)
- | **CGPA: 7.67** (till date)
- **Honors: Robotics | CGPA: 8.22**
- Relevant coursework: Automation Systems, Robotics, Embedded Systems, Control Engineering, Robot Operating System (ROS2)

HSC (2023) Shri Dnyaneshwar Mahavidyalaya, Newasa, Ahilyanagar, Maharashtra

- Percentage: **55.83%**

SSC (2021) St. Mary's School, Newasa, Ahilyanagar, Maharashtra.

- Percentage: **80.60%**

PROJECTS

Autonomous Guided Vehicle (AGV) for Industrial Material Handling (*Team Lead*) (Feb-2026 to Present)

- Developed an AGV using **STM32**, sensors, and motor drivers for autonomous material transport
- Implemented obstacle detection and path-following control logic
- Reduced manual material handling effort by **~30% (estimated)**

Mobile Robot Simulation using ROS 2 (URDF, Gazebo) (Jan 2026 to Feb 2026)

- Modeled a mobile robot using **URDF/Xacro** and simulated it in a custom Gazebo environment
- Simulated robot with **4+ sensors (LiDAR, camera, odometry, diff drive)**
- Applied ROS 2 concepts including **nodes, topics, and sensor data processing**

Sonic Crow: Smart Motion System Based on Sound Detection (*Project Lead*) (March 2025 to April 2025)

- Developed a sound-activated system using **LM393 sensor** and relay controlled **N20 motor**
- Designed and fabricated gear mechanism using **Creo, 3D printing, and laser cutting**
- Integrated mechanical and electronic systems for automated motion-based bird deterrence

ACHIEVEMENTS & LEADERSHIP

- Finalist – **DIPEX State-Level Project Competition**, presented engineering project at final round
- Winner – **Intra-Department Cricket Championship** (2x)
- Active participant in sports and extracurricular activities at college level
- Contributed to organizing departmental events.
- Baseball Inter Zonal Tournament 3rd Position

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LANGUAGES

English
Hindi
Marathi

TECHNICAL AND SOFTWARE PROFICIENCY

Programming Languages: Python, C/C++

Embedded Systems &

Controllers: STM32, ESP32, Microcontrollers, Sensor Interfacing

Robotics & Automation: ROS 2 (learning), AGV Systems, Differential Drive, Odometry, Control Systems, Navigation & Path Planning

Computer Vision: OpenCV, Image Processing

CAD & Design Tools: Creo, SolidWorks,

Simulation & Tools: Gazebo, URDF, Xacro, Roboanalyzer

Manufacturing & Prototyping: 3D Printing, Laser Cutting

Industrial & Other Skills: Basic PLC (Codesys), MS-Office, PowerPoint, Excel.

CERTIFICATION

-**Universal Robots Academy** - e-Series Core Track

-**NPTEL** – Employment communication

-**NPTEL** – Indian Economy: Some Contemporary Perspectives

-**Udemy** - ROS2 for Beginners

-**Udemy** - ROS2 Nav2- with SLAM, Mapping, Navigation