

# Sumanta

Coder • Robotics Enthusiast • Embedded Systems Engineer

📁 Portfolio: <https://technomaxxa.github.io> | 📷 Instagram: @realmagix\_

## Summary

Passionate and detail-oriented Coder, Robotics Enthusiast, and Maker with strong expertise in embedded systems, IoT, and automation. Experienced in developing innovative hardware-software solutions, bridging the gap between code and robotics. Skilled at prototyping, problem-solving, and contributing to open-source projects.

## Skills

- Programming: Embedded C, C++, Python
- Hardware Platforms: Arduino, ESP32, Raspberry Pi
- Domains: Robotics, IoT, Computer Vision, Control Systems
- Tools & Frameworks: ROS, OpenCV, GitHub Actions
- Networking: UDP, TCP/IP, HID protocols
- Other: Firmware Development, Sensor Integration, Hardware Prototyping

## Experience

Lead Firmware Engineer — 2025 - Present

- Designed and deployed embedded systems for robotics and haptic feedback devices.
- Developed reliable firmware for real-time hardware interaction.

Robotics Research Intern — 2024

- Implemented pose estimation and servo control pipelines.
- Optimized real-time inference models for edge devices.

## Projects

Smart Robotic Arm — Designed a robotic arm with inverse kinematics, ROS integration, and onboard microcontroller firmware.

FSR Haptics Controller — Developed a tactile sensing system with haptic feedback and USB HID support.

UDP Tracking System — Built a YOLOv8-based pose tracker with UDP communication for servo actuation.

## Interests

📁 Robotics • ⚡ Automation • 🛠 Hardware Prototyping • 🤝 Open-Source Collaboration