



# TANUJA ADHAV

## CONTACT

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## EDUCATION

2022 - 2023

### SAVITRIBAI PHULE PUNE UNIVERSITY

- Completed SSC with 91.60% in Dr.Babasaheb Ambedkar Mahavidyalay, Sonai, Tal - Newasa, Dist-Ahilyanagar

2024 - 2025

### MSBTE

- Completed second year Diploma in Information Technology with 94.17% in Amrutvahini Polytechnic, Sangamner, Dist-Ahilyanagar
- Currently pursuing further education

## SKILLS

- Teamwork
- Time Management
- Leadership
- Effective Communication
- Critical Thinking

## LANGUAGES

- English
- Hindi
- Marathi

## PROFILE

I am Diploma IT student at Amrutvahini Polytechnic Sangamner, currently in 2nd year. Passionate about coding, software development, and building innovative tech solutions. Skilled in Python, C programming, C++, JAVA, Arduino-based hardware simulation, and UI design. Looking to contribute technical knowledge and creativity to a dynamic organization based on my skills.

## WORK EXPERIENCE

### AI, Machine Learning and Robotics

- Developed a real-time 3D object detection system using OpenCV and Python, integrated with PyQt5 for GUI.
- Calculated object area in square centimeters (cm<sup>2</sup>) using segmentation techniques.
- Used machine learning (e.g., basic image classification or object tracking algorithms) for detection and labeling.
- Simulated hardware logic using Arduino and Tinkercad, integrating sensors for robotics control.
- Built a multi-screen UI with Start, Capture, Stop, and View functionality.
- Achieved consistent detection accuracy and designed an interactive user experience.
- Trained Data of csv. file using Machine Learning.

### Mechanics and Embedded Systems

- Designed and implemented a mechanical system integrated with microcontrollers (Arduino UNO) for automated control.
- Used ultrasonic and IR sensors for real-time obstacle detection and distance measurement. 2024 - 2025
- Programmed the system using C/C++ and Arduino IDE, achieving accurate motor control and sensor feedback.
- Developed a simulation in Tinkercad to test sensor responses and mechanical movement.
- Applied mechanical design principles (gear systems, torque balance) to ensure stability and efficiency.

## PROGRAMMING LANGUAGES

- C Programming Language
- C++
- Java
- Python
- HTML