



Anand Vardhan

B.Tech - 3rd Year
Mechatronics Engineering
Indian Institute of Technology, Bhilai

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EDUCATION

- INDIAN INSTITUTE OF TECHNOLOGY, Bhilai** 2022-2026
B.Tech - Mechatronics Engineering (Cgpa: 7.61(Sem-VI))

EXPERIENCE

- Bariflo Cybernetics Pvt. Ltd.** May 2025 - Present
Mechatronics Intern (GET) Bhubaneswar
– I am working on the Variable Buoyancy System(VBS) and dynamics for the development of a 3 dof Underwater Drone to be used for cleaning and inspection works in Fisheries and Aquaculture farms
– **Tools & technologies used:** SolidWorks/Fusion360, STM32, Sensor Integration

PROJECTS

- INTER-IIT 13.0- Centralized-Intelligence for Dynamic Swarm Navigation** Github repo
Designed and implemented a swarm navigation solution for autonomous robots to operate in dynamic environments without GPS.
– Developed a MongoDB-based system for real-time data logging and map updates, integrating ROS2 for swarm communication and obstacle avoidance.
– Achieved the 17th rank in the Kalyani BharatForge problem statement at Inter-IIT Tech Meet 13.0 hosted by IIT Bombay.
- JACK – The Robot Dog** Github repo
A Quadrupedal robot for robust and agile movement in rough terrains by implementing Inverse Kinematics.
– Each foot has 3 DOF to ensure versatile and lifelike motion. Initially developed with Arduino, the project further leveraged ROS2 capabilities for simulation, calibration, and enhanced control algorithms for a trot gait-based stabilized walking.
- Voice Command Guided Mobile Robot**
A Mobile Robot Control system for deployment in uninhabitable/toxic regions using voice command by ESP-NOW protocol
– Tested various ESP32 communication modes and selected ESP-Now protocol for sending and receiving command data over 120m from a remote.
– Enables exploration of contaminated areas, nuclear zones, and ecological data collection without direct human intervention.

SKILLS

Programming Languages/Scripts: Python, C / C++, Bash script, Java, HTML, CSS, JavaScript
Frameworks & Tools: ROS2, Gazebo, PID Control, Sensors, MicroControllers(Arduino, ESP, STM32), Internet of Things, MQTT, Socket Programming, Docker
Design & Simulation: Autodesk Fusion 360, PCB Design (KiCAD), MATLAB
Version Control: Git, Github
Some Coursework: Machine Learning, Embedded Systems for Mechanical Controls, Design & Analysis of Robotic Systems, Control Systems, Digital Controls, Mechanisms & Controls Labs, Advanced Sensing Techniques
Other Skills: Figma, Organizational Skills

CERTIFICATIONS

- IoT, Robotics and Embedded Systems | Coincent.ai 2023
- ROS2 Nav2 [Navigation 2 Stack] – with SLAM and Navigation | Udemy 2025

POSITIONS OF RESPONSIBILITY

- Co-Founder,** Entrepreneurship-Cell, IIT Bhilai 07/2024 - 05/2024
- Internship Coordinator,** Centre for Career Planning and Services, IIT Bhilai 04/2024 - 04/2025
- Public Relations Head,** Outreach Committee, IIT Bhilai 04/2024 - 10/2024
- Core Member,** The Epsilon Club(Robotics Club), IIT Bhilai 03/2024 - 04/2025
- Core Member(Aeromodelling Division),** Space Exploration Society, IIT Bhilai 04/2023 - 03/2024
- Volunteer,** Student Mentorship Programme, IIT Bhilai 04/2023 - 03/2024
- Graphic Designer,** Sports Council 23-24, IIT Bhilai 04/2023 - 02/2024