Raj Waykar

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EDUCATION

Walchand Instiute Of Technology, Solapur **Nov 2021 - June 2025**
BTech in Electronics and Telecommunication *8.89/10 CGPA*
Mahatma Gandhi Junior College, Karmala **Feb 2021**
HSC *87%*
Mahatma Gandhi Vidyalaya, Karmala **March 2019**
SSC *87%*

TECHNICAL SKILLS

Microcontrollers: Raspberry Pi, Arduino Uno, ESP32, ESP8266
Programming Languages: C, C++, Python, Embedded C
Tools: MATLAB, Arduino IDE, Proteus, Keil, Wokwi, Power BI
Other Skills: Communication, Leadership, Problem Solving

WORK EXPERIENCE

1. Product Engineer

Frootle India Private Limited, Mumbai *June 2025 - Present*

- Handling electronics troubleshooting and diagnostics for premium consumer appliances (Tineco & Coway).
- Working on PCB-level diagnostics, sensor calibration, and motor control systems for product servicing.
- Investigating and resolving signal flow & communication issues between PCBs, sensors, and actuators.
- Performs sensor-level diagnostics (PM2.5, iLoop dust detection, Hall effect, float sensors, obstruction detection, etc.) in Tineco & Coway products .

2. Project Trainee Intern

Bhabha Atomic Research Center, Mumbai *January 2025 - April 2025*

- Working on advanced video compression techniques for IP camera footage using FFmpeg, GStreamer, and VLC .
- Implementing hardware acceleration and optimizing performance on Raspberry Pi 4.
- Exploring various codecs and their efficiency in real-time streaming and storage applications. .
- Enhancing system performance by integrating software-based and hardware-based solutions for video processing.

PROJECTS

1. Autonomous Underwater Vehicle: Python/Raspberry Pi 4B

- Achieved specific shape detection of object along with actual Colors.
- Achieved Detection of object under water having impurities.
- Created a Webpage for real time Monitioring and Controlling of LED's(Thrusters).
- Worked On Power Over Ethernet(POE).

2. Configuring Raspberry Pi 4 for Hardware-Accelerated IP Camera Integration : Python/Raspberry Pi 4B

- Enabled hardware-accelerated H.264 decoding for real-time video streaming .
- Reduced CPU usage by optimizing GStreamer pipelines on Raspberry Pi .
- Processed live video frames with OpenCV for real-time analysis.

3. IOT based Gas Pipe Leakage Detector: C/Arduino/ESP8266/GSM

- Designed and Implemented an IoT-based gas leakage detection system using **NodeMCU, Arduino Uno, MQ9 gas sensor, and SIM900A GSM module.**
- Developed a real-time gas monitoring solution to detect **hazardous gas** levels and alert users via **SMS.**

CERTIFICATIONS

- Microsoft - **Azure Fundamentals (AZ-900)**
- LinkedIn Learnings - **IOT Fundamentals**
- MKCL - **C Programming**

EXTRACURRICULAR ACTIVITIES

- Awarded **2nd** prize in **Electrosimulate** in **WITCHAR2024** at Walchand Institute Of Technology, Solapur
- Secured **3rd** prize in **CircuitSudoku** competition at Karmayogi Institute Of Technology, Pandharpur
- Volunteered at **NSS** Blood Donations Camp in College, Assisting in Donar Management