Janhavi Rupnar

+91 9960071967 - janhavirupanar@gmail.com   - LinkedIn   - GitHub

EDUCATION

Walchand Institute Of Technology	**Solapur**
Bachelor of Technology (B.Tech) in ENTC; CGPA: 9.56	*November 2021 - June 2025*
Pemraj Sarda College	**Ahmednagar**
12th Grade (HSC); Percentage: 85%	*February 2021*
Bhausaheb Firodiya High School	**Ahmednagar**
10th Grade (SSC); Percentage: 87%	*March 2019*

WORK EXPERIENCE

1. System Verification Engineer

Blue Star Ltd., Thane   *May 2025*

- Validated **embedded control logic and firmware functionality** through automated/manual test plans on VRF systems, cassette units, split ACs, and inter gas systems, using **Embedded C** and real-time debugging tools. .
- Improved **firmware accuracy by 15%** and reduced **system failure rates by 20%** through optimized testing methodologies and data-driven analysis.
- Collaborated with **R&D teams** to evaluate decision logic under varying operating conditions, enhancing product stability, safety, and energy efficiency.
- Maintained **defect tracking reports, quantified test coverage metrics, and executed continuous validation processes** for **high-reliability HVAC embedded systems**

2. Project Trainee Intern

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

- Researched and implemented advanced video compression techniques using FFmpeg, GStreamer, and VLC, integrating with **IoT-based surveillance pipelines via REST APIs and MQTT protocols** .
- Optimized **video processing on Raspberry Pi 4 with hardware acceleration**, boosting performance by **30%**.
- Benchmarked **real-time streaming codecs** and improved storage protocols, reducing storage usage by **20%**.
- Automated **Python-based scripts** for log analysis and performance monitoring, streamlining reporting workflows.
- Delivered a **mission-critical research solution** for **IP camera surveillance systems**, showcasing innovation in **IoT and multimedia processing**.

3. DevOps for Internet Of Things

TryItFirst India Pvt. Ltd.   *February 2024 - April 2024*

- Configured and managed **web servers** (Apache, Tomcat, Flask, Nginx) to support IoT applications.
- Automated **network diagnostics and service configurations** with **Shell and Python scripts**, cutting downtime by **25%**.
- Conducted **protocol analysis using Wireshark**, improving server response accuracy and network reliability.
- Managed **MySQL and MariaDB databases**, enabling secure data syncing via **XAMPP and LAMP stacks**.

PROJECTS

IoT-based Gas Pipe Leakage Detector: C/Arduino/ESP8266/GSM

- Designed and deployed an **IoT-enabled BOT** for **real-time gas leakage detection** in pipelines.
- Integrated **MQ-9 gas sensors** with **Arduino UNO** and **ESP8266 Wi-Fi module** for live gas concentration monitoring.
- Connected to **InfluxDB Cloud** and built **Grafana dashboards** for real-time visualization, analytics, and reporting.
- Implemented **SMS alert system** using **SIM900A GSM module**, sending alerts **within 5 seconds** of detection.
- Reduced detection delays by **30%** and minimized manual monitoring needs by **40%**.

Intelligent Embedded Robot Using Ultrasonic and IR Sensors : C/Arduino/HC-SR04

- Developed an **autonomous robot** capable of **real-time obstacle detection and navigation**.
- Programmed in **C (Arduino IDE)** to process inputs from **ultrasonic and IR sensors** for obstacle avoidance.
- Optimized detection thresholds using **statistical analysis**, improving navigation accuracy by **25%**.

- Demonstrated use of **embedded control systems** and **sensor fusion** in robotics.

Custom Cloud Dashboard
- Built a **custom IoT cloud dashboard** to monitor and visualize real-time sensor data.
- Integrated **Grafana API** with IoT devices to enable **automated reporting and system health tracking**.
- Created **Power BI dashboards** for comparative analysis and decision-making support.
- Enhanced IoT device management efficiency by **20%** through centralized monitoring.

Predictive Analytics Platform for Match Outcome Simulation
- Developed a **data analytics platform** to simulate and predict match outcomes using historical datasets.
- Applied **predictive modeling techniques** with **Pandas and Matplotlib** for performance analysis.
- Automated data fetching via **yFinance-like APIs**, reducing manual data preparation by **60%**.
- Demonstrated practical use of **Python-based data science, machine learning readiness, and predictive analytics**.

TECHNICAL SKILLS

Programming: C, Python,Shell Scripting

Databases: MySQL ,MariaDB
Hrdware & IoT : Arduino UNO, NodeMCU, ESP32, Raspberry Pi 4
Tools & Visualization : Grafana, Power BI, FFmpeg, Wireshark, Keil, Proteus **Web**
Servers & DevOps : Apache, Tomcat, Flask, Nginx, XAMPP, LAMP .
Cloud & Platforms Microsoft Azure (AZ-900 Certified)
Soft Skills: Communication, Leadership, Problem-solving, Analytical thinking

CERTIFICATIONS

- Microsoft - **Azure Fundamentals (AZ-900)**
- Infosys Springboard - **Mastering Arduino by Building Real World Applications**

EXTRACURRICULAR ACTIVITIES

- **Vice President , ISTE** (ENTC Department) ,Walchand Institute of Technology
- **Event Coordinator** at Indian Society for Technical Education
- **Volunteer** and **Fundraiser** at Millap NGO