

# RUPESH BHARAMBE

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[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

## EDUCATION

### CSMSS Chh. Shahu College of Engineering

B.Tech Artificial Intelligence & Data Science, CGPA: 7.0

Chh. Sambhajinagar, Maharashtra

November 2022 - June 2026

## EXPERIENCE

### Software Engineer Intern | Biopan Scientific Pvt. Ltd.

Chh. Sambhajinagar | Oct 2025 - Present

- Built and maintained regulated **scientific-instrument desktop software** (LC, bioreactor, plate reader, RT-qPCR), owning **UI/UX, MVVM architecture, backend logic, data processing, and reporting** end-to-end.
- Implemented **data integrity + compliance-ready features** aligned with **21 CFR Part 11 / IEC / EU Annex 11**, including **role-based access control, audit trails, electronic records/signature support, & tamper-evident logging**.
- Integrating **AI/ML and analytics** into applications for automated insights (quality checks/anomaly flags/trend analysis), and produced **technical documentation** while supporting demos and business-development deliverables.

### Software Developer Intern | Intersense Technologies LLP

Chh. Sambhajinagar | Apr 2024 - May 2024

- Built a **Raspberry Pi-based PyQt HMI/edge application** for shop-floor gauging: parsed serial gauge measurements, validated against tolerance limits, and enabled configurable measurement rules for multiple part dimensions.
- Implemented **closed-loop CNC compensation** by reading/writing tool offsets to **HAAS CNC via Telnet**, automating correction actions when measurements drifted and improving in-process quality control workflows.
- Designed persistent **traceability logging** using **SQLite** to store measurement and correction history, with operator configuration screens for gauge/CNC endpoints and system I/O status (GPIO alerts).

## SKILLS

### Languages:

Python, JavaScript, SQL, PHP

### ML & Deep Learning:

Computer Vision, Time-Series Forecasting, Supervised/Unsupervised Learning, Model Fine-Tuning, Evaluation & Metrics

### LLMs / GenAI:

Transformers (GPT/BERT, Hugging Face), RAG Pipelines, Prompting, Embeddings, Vector Search (FAISS/Pinecone), LangChain

### Frameworks:

PyTorch, TensorFlow, scikit-learn, OpenCV, Transformers, FastAPI/Flask, PyQt

### Data & Databases:

Data Preprocessing, Feature Engineering, PostgreSQL, MySQL, MongoDB, Neo4j

### Deployment & MLOps:

Docker, AWS, GCP, Firebase, Git/GitHub, CI/CD, Model Packaging & API Serving

## PROJECTS / OPEN-SOURCE

### Real-Time Electricity Demand Forecasting - Online | Python, SARIMAX, Time-Series, Firebase

- Built multi-horizon forecasting for **daily, hourly, and 5-minute** demand using **12+ years** of historical data enriched with **real-time weather + holidays**, achieving **98%+ accuracy**.
- Benchmarked Regression, Transformers, ARIMA/SARIMA and selected **SARIMAX** for seasonal performance; integrated all models into a **single responsive web app** with secure access.
- Deployed production-style pipeline using **Docker + Google Cloud Run** with **Firestore authentication** and **auto-training** to refresh predictions with new data.

### Face Liveness Detection System | Python, OpenCV, Deep Learning, Custom Dataset

- Led the team to win **RACKATHON 2025**, building a next-gen liveness detection system combining **mathematical formulae + custom-trained neural network** for secure real-time verification.
- Addressed dataset gaps by **collecting + annotating a real-time dataset** covering diverse age groups/variations; optimized for **low-resource devices** while preserving security.
- Engineered a lightweight approach designed to be **fast and network-friendly**, focusing on real-world robustness.

### @scale Enterprise AI/ML Solution Suite | Python, ML, EDA, Model Validation, Feature Engg.

- Won the **@scale AI Hackathon (Marathwada)** working on **real industry data** with limited availability and high-performance constraints; solution evaluated by industry experts.
- Built end-to-end AI/ML solutions with **robust preprocessing + feature engineering**, careful validation, and **explainability outputs**, delivered via a working demo web app.
- Led the team; focused on practical engineering and deployable workflows instead of classroom-style experimentation.

## HONORS & AWARDS

- 5x Hackathon Winner; SIH 2024 Winner** - Electricity demand prediction for Delhi (Grand Finale).
- Winner, @scale AI Hackathon of Marathwada** (Findability Sciences/NSBT) - Enterprise AI/ML Applied AI Challenge.
- Winner, Rackathon 2025** (G H Raisonni University, Amravati) - Face liveness detection system.
- SIH 2025 Grand Finale (Top 5)** - VETRA: Image-based animal type classification for cattle and buffaloes (Ministry of Fisheries, Animal Husbandry & Dairying).
- 3rd Prize - ORCHATHON 2K25** (N. K. Orchid College of Engineering and Technology, Solapur)
- 3rd Runner Up (Top 5) - HackCelestial 2.0** (Pillai College of Engineering, Mumbai)
- Silver (2nd Prize) - Avishkar 2024** (Zonal Level).

## POSITION OF RESPONSIBILITY

- Vice President, AI & Data Science Students Association (AI&DSSA) - May 2025 to May 2026.
- Event Head Coordinator, InnoHack Robotics & AI Hackathon - Jun 2025.