Subhas Rayala

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Professional Summary

MES Engineer with hands-on experience delivering Manufacturing Execution Systems, digitization solutions, and IT-OT integrated applications across dairy and chemical manufacturing environments. Proficient in LIMS deployments, e-BMR configuration, SQL-based data operations, IIS administration, OPC/SCADA connectivity, and end-to-end solution delivery. Skilled at requirement gathering, system validation, application support, and ensuring operational continuity for plant-wide digital systems.

Professional Experience

Jaaji Software Technologies Pvt Ltd – Solution Delivery Engineer

Hyderabad | Mar 2025 – Present

Client: Dodla Dairy – LIMS Platform Implementation

- Digitalized Laboratory Information Management System (LIMS) across 9 dairy manufacturing plants, ensuring system reliability and continuous operational support.
- Gathered and analyzed customer requirements, translating them into detailed technical specifications for development teams.
- Performed system debugging, patch testing, verification, and validation to ensure stable performance across multiple production environments.
- Managed patch migrations, system backups, and environment readiness activities to safeguard data integrity and application uptime.
- Prepared daily reports, weekly summaries, and OPC connectivity reports for stakeholders, enabling transparent communication and decision-making.
- Conducted weekly client review meetings to track progress, resolve issues, and strengthen stakeholder alignment.
- Executed SQL queries using Oracle TOAD and MS SQL Server for data extraction, validation, and troubleshooting activities.
- Provided end-to-end project coordination, status reporting, and client communication to ensure smooth solution delivery.
- Administered IIS and Windows Services for application deployment, service monitoring, and incident resolution.
- Supported on-site UAT, requirement workshops, and IT-OT integration tasks including SCADA, OPC UA, and industrial data flow validation.
- Designed an analytics workflow by evaluating asset-wise deviations, deviation reports, and identifying process gaps; recommended process improvements using Cp, Cpk, Pp, and Ppk capability indices.

Client: Dorf Ketal – e-BMR Configuration

- Configured over 100+ Electronic Batch Manufacturing Records (e-BMR) for specialty chemical operations, standardizing and digitizing batch process flows.
- Validated functional workflows, authorization matrices, and process steps for accuracy and compliance.
- Collaborated with production, QC, and engineering teams to map process parameters into system logic.
- Ensured seamless integration of e-BMR modules with existing MES/LIMS architecture.

Toyo Engineering India Pvt Ltd - Process Engineering Intern

Mumbai | Dec 2022 – Feb 2023

- Assisted in the Vacuum Distillation Unit (VDU) expansion project through line sizing, pump hydraulics calculations, and heat exchanger datasheet preparation.

- Reviewed engineering documents including PFDs, P&IDs, C&E matrices, and Control Philosophy documentation.
- Prepared commissioning documentation and line-listing files supporting project execution.

Indian Oil Corporation Ltd – Data Analysis Intern
Mathura | June 2022 – Sept 2022

- Performed Time-Series Analysis on five years of refinery plant data to identify operational trends and performance deviations.
- Cleaned datasets using Excel and VBA Macros, resolving shutdown periods, anomalies, and outliers.
- Automated heat exchanger fouling analysis model with graphical reporting.
- Developed dashboards and automated visualization reports for senior leadership decision-making.

Institute of Chemical Technology – Machine Learning Intern
Remote | Jan 2020 - April 2020

- Preprocessed image datasets and evaluated ML models such as SLM and Neural Networks, achieving 80% accuracy in image classification.
- Applied statistical analysis techniques and model tuning to enhance predictive performance for business intelligence applications.

Projects

Local PDF Chatbot (RAG + Ollama)
- Developed a local RAG-based chatbot capable of PDF knowledge retrieval using Ollama models.
- Implemented reranker logic for relevance scoring and integrated OCR for image-based extraction.
- Designed an interactive Streamlit UI for user testing and demonstrations.

Credit Card Financial Dashboard (Power BI + SQL)
- Built a SQL-integrated Power BI dashboard for real-time financial KPI monitoring.
- Optimized data models and DAX calculations to improve dashboard accuracy and responsiveness.

Disease Prediction Algorithm
- Executed ETL workflows on clinical datasets and evaluated multiple ML models.
- Achieved 98% accuracy in cardiovascular risk prediction after hyperparameter optimization.

Email Spam Detection System
- Implemented Count Vectorizer-based text feature extraction and supervised ML models.
- Optimized models using GridSearchCV achieving over 90% accuracy.

Skills

MES Systems, LIMS, e-BMR, IT-OT Integration, OPC UA, SCADA/DCS, Modbus, SQL (MS SQL Server, Oracle TOAD), IIS Administration, Windows Services, Python, Machine Learning, Power BI, NoSQL, Jupyter, PyCharm, Streamlit, RAG pipelines, HTML/CSS/JS, VS Code.

Education

Institute of Chemical Technology, Mumbai Indian Oil Campus Bhubaneswar   -   CGPA 8.42/10
Integrated Masters (Btech+Mtech) in Chemical Engineering |Minor in Petrochemicals | 2019 - 2024