

Krishna Joshi

[Github](#)[LinkedIn](#)krishajoshi.work@gmail.com[+91 9904267696](tel:+919904267696)[Portfolio](#)

Work Experience

A.P. Moller Maersk

Bengaluru, India

Associate Software Engineer

Aug 2025 – Present

- Built **EPIC**, an internal AI analytics copilot enabling business users to retrieve reporting insights through natural-language queries; used by **100+ users** and reduced turnaround time for common reporting requests from **1–2 days to under 2 minutes**.
- Architected the backend orchestration layer using **LangGraph**, **Azure OpenAI**, and **FastAPI**, extracting entities, classifying intent, routing requests across four domain-specific workflows, generating parameterised SQL, and maintaining conversation context through **SQLite checkpointing**; also added metadata caching, job cancellation, and structured audit logging.
- Designed the **React** frontend with real-time job status tracking, progress updates, markdown rendering, and dynamic visualisations; created an administrative interface for activity monitoring and cache management, and deployed the application to **AKS** using Docker and GitHub Actions CI/CD with **Prometheus**-based monitoring.
- Engineered a full-stack exception management platform replacing a manual process across **regional offices**; developed a **Databricks** batch pipeline processing **5,000+ daily transactions** and surfacing approximately **750 exceptions** per day, alongside a **FastAPI** backend with SQLAlchemy, Azure AD SSO, RBAC, and audit tracking for claim, defer, and resolution workflows, with decisions synchronised back to Databricks.
- Delivered a **Vue**-based interface for the exception platform with search, filtering, and streamlined user actions, integrating with the backend workflow to support efficient exception review and resolution.

Intern

Aug 2024 – Jul 2025

- Transformed Excel/VBA allocation workflows into a **web-based allocation solution** managing **200+ financial rules**, with metadata-driven configuration, dynamic rule execution, and simulation capabilities, enabling centralized rule management and removing the dependency on engineers to manually translate business logic into code.
- Implemented **Kafka/PySpark Structured Streaming** pipelines for incremental ingestion of finance datasets into Delta Lake, with checkpointed processing and schema evolution support for reliable, fault-tolerant data loads.

Personal Projects

PromptEase – Multimodal RAG Chatbot

[GitHub](#)

- Built a multimodal RAG chatbot for multilingual product support using **Gemini** and **ColPali**-based retrieval across **170 technical documents**, supporting text, image, and speech inputs with session-based chat history.
- Implemented hybrid retrieval using multimodal embeddings and similarity search to generate grounded multilingual responses across multiple product lines.

CropPal – Computer Vision for Crop Monitoring

[GitHub](#)

- Designed a crop identification and growth-stage detection system using CNNs and transfer learning, benchmarking **6+ pretrained architectures** across **14,000+ images**.
- Achieved **92%+** classification accuracy with EfficientNet-B0, demonstrating transfer learning effectiveness for agricultural image classification.

Research Publications

Optimizing Multimodal RAG Systems for Multilingual Product Support

IAJIT, Scopus-indexed

Evaluated 5 RAG architectures across 17 configurations for multilingual product support; a ColPali-inspired multimodal approach achieved 94% Top-1 retrieval accuracy.

Malware Detection and Classification Using Machine Learning Techniques: An Implementation Study

IJCDS, CiteScore 2.3, Q3

Developed ML-based detection models for polymorphic URLs and PE malware, achieving 97.85% and 99.4% accuracy respectively using TF-IDF/Logistic Regression and Random Forest.

Technical Skills

Languages:	Python, SQL, JavaScript, TypeScript, Java, C++
AI & GenAI:	LangChain, LangGraph, RAG Systems, Embeddings & Vector Search, NLP
Frameworks & Databases:	FastAPI, Flask, Django, Node.js, Express, React.js, Vue.js, PostgreSQL, MongoDB
Data Engineering:	Apache Kafka, PySpark, ETL/ELT, Data Modeling, Data Warehousing, Batch/Streaming
DevOps & Cloud:	Docker, Kubernetes, GitHub Actions CI/CD, Azure, Nginx, Prometheus, Grafana, Git, Power BI

Education

Symbiosis Institute of Technology, Pune

2021 – 2025

B.Tech. Computer Science & Engineering

GPA: 8.60/10

Relevant Coursework: Data Structures & Algorithms, DBMS, Operating Systems, Computer Networks, Distributed Systems, Machine Learning, Artificial Intelligence