Dinesh Das

AI Engineer | Generative AI | RAG | Agentic AI | Backend Systems

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Professional Summary

Software engineer with **4+ years at Asian Paints** delivering production backend systems, data pipelines, enterprise integrations and automation, alongside hands-on work in Generative AI, LLM applications, retrieval-augmented generation (RAG) and agent workflows. Built an internally deployed, four-agent supply-chain risk assistant, an evaluated hybrid-RAG system and a public MCP-based code intelligence tool. Promoted twice while delivering business-critical systems across manufacturing, supply chain, R&D and sourcing; experienced in production reliability, SQL and cross-functional delivery.

Technical Skills

AI & Machine Learning: Python, Machine Learning, Deep Learning, Generative AI, Large Language Models (LLMs), RAG, Agentic AI, Multi-Agent Systems, NLP, Computer Vision, Prompt Engineering, Model Evaluation

LLM & Retrieval: LangChain, LangGraph, LlamaIndex, Hugging Face Transformers, OpenAI API, Gemini API, Ollama, Sentence Transformers, FAISS, pgvector, HNSW, Hybrid Retrieval, Reranking, Embeddings, Semantic Search

Model Engineering: PyTorch, Model Evaluation, Embeddings, Sentence Transformers, OpenCLIP, Prompt Engineering

Backend & Data: FastAPI, REST APIs, Microservices, Docker, OpenTelemetry, PostgreSQL, Oracle, MySQL, SQLite, SQL, PL/SQL, ETL, Data Pipelines, Java, Spring Boot, SAP S/4HANA, SAP RFC/BAPI, Informatica, Git, Kafka, Redis, Unit Testing, System Design

Current AI Engineering Focus: LangGraph, LlamaIndex, Hugging Face Transformers, TensorFlow, scikit-learn, PEFT, LoRA, QLoRA, MLflow, MLOps, LLMOps, Kubernetes, CI/CD, GitHub Actions, AWS, Azure, GCP, model monitoring, model serving

Professional Experience

Asian Paints Limited

Mumbai, India | Aug 2022 – Present

Principal Executive – Systems Development (Jul 2026 – Present); previously Senior Executive (Oct 2024 – Jul 2026) and Executive 2 (Aug 2022 – Oct 2024)

- Built and internally deployed **AP Supplier Risk Analyst**, a four-agent supply-chain risk workflow in Microsoft Copilot Studio; the project placed **3rd** in an Asian Paints hackathon.
- Led architecture, delivery and production support for **20+ enterprise systems serving 200+ users** across R&D, manufacturing, supply chain, sourcing, marketing and safety.
- Engineered Java/Spring Boot, REST API, Oracle and SAP S/4HANA integration workflows, reducing PLM-to-manufacturing turnaround by approximately **40%**.
- Re-architected session-dependent processing into parallel pull-based workflows, reducing selected cost-impact calculations from **hours to seconds**.
- Automated material, SKU, BOM and manufacturing workflows, eliminating more than **8 hours of manual effort per day**; reduced base and hardener code creation from **40–50 minutes to seconds** through automated validation and code generation.
- Stabilized PLM–SAP integrations, contributing to approximately **40% fewer synchronization errors and production incidents** and a **95%+ release success rate**.

Projects

AP Supplier Risk Analyst – Multi-Agent Risk Intelligence Asian Paints | 2026

Microsoft Copilot Studio, LLMs, agent orchestration, enterprise master data

- Designed four specialized agents to examine disruption news, transport-route exposure, approved alternate raw materials and procurement mitigation options.
- Connected risk signals to supplier, material and consumption context to present affected finished goods, supporting rationale and recommended next actions for internal users. Project details

MindRAG – Hybrid RAG Knowledge System Personal | 2026

Python, FastAPI, PostgreSQL, pgvector, Ollama, Sentence Transformers, OpenTelemetry

- Built a local-first knowledge assistant with six ingestion paths (PDF, Markdown, URLs, Notion, OCR and voice notes), source-linked answers and duplicate-content checks.
- Combined pgvector HNSW and PostgreSQL full-text search using reciprocal rank fusion; added citation checks, context budgeting and evidence-based refusal. Evaluated Recall@k, MRR, nDCG, faithfulness, citation and refusal quality.
- Wrote a check that accepts a new embedding model only if it improves **MRR@10** without lowering **Recall@5** in either dense or hybrid search. Project details

CodeAtlas – MCP Code Intelligence Open source | 2026

TypeScript, Node.js, Tree-sitter, TypeScript Compiler API, SQLite/FTS5, MCP, Vitest

- Built a local CLI and MCP server that turns code repositories into versioned architecture graphs covering symbols, imports, calls, dependencies and framework routes.
- Implemented incremental indexing, source provenance and explicit verified/inferred/unresolved relationships; exposed bounded search, execution-trace and change-impact queries that let coding agents trace callers, dependencies and tests to source lines.
- On **30 development tasks**, a compact format used **52% fewer tokens** than JSON to represent the same facts. Source: github.com/Dinesh-Das/CodeAtlas

Resume–Job Matching and ATS Analysis Personal | 2026

Python, FastAPI, spaCy, TF-IDF, Sentence Transformers, Gemini API, React, Docker

- Created resume parsing and job matching with OCR fallback, skill extraction, semantic similarity, prioritized skill gaps and Gemini-assisted rewriting; exposed API workflows and a React interface. Source: github.com/Dinesh-Das/resume-job-matching-ats-optimization-engine

Recall – Local Multimodal Search Personal | 2026

Python, PyTorch, OpenCLIP, FAISS, OpenCV/SFace, SQLite

- Built private text-to-image and image-to-image search with persisted FAISS embeddings; added batched GPU/CPU indexing, video-frame retrieval, face grouping and SQLite-backed media metadata.
- Batched vector imports from SQLite, cutting FAISS import time from **359 to 111 ms** in a local benchmark of **20,000 synthetic vectors**. Project details

FilingLens India – Financial Question Answering

Python, LangGraph, Llama 3.1 8B, XBRL

- Used LangGraph and Llama 3.1 8B to turn questions into calculations verified against cited XBRL facts. Tested **3,936 synthetic calculation cases**.
- On **12 separate synthetic development questions**, the system gave nine verified answers and correctly declined or requested clarification on three. Project details

Flappy AI – Flight Lab

NumPy, neural networks, evolutionary training and evaluation

- Trained a population of **160 neural networks** in NumPy over **80 generations** using selection and mutation.
- The saved policy cleared all **500 obstacles** on each of **20 unseen simulator courses**. Project details

Education

Master of Computer Applications (MCA), Government Engineering College Aurangabad 2020 – 2022
CGPA: 8.8/10

Bachelor of Computer Science, S.B.E.S. College of Science, Aurangabad 2017 – 2020
CGPA: 7.6/10

Certifications

AI Engineer for Developers Associate DataCamp, 2026

Introduction to Agent Skills Anthropic Education, 2026

Introduction to Subagents Anthropic Education, 2026