

# Nivetha Jayaram Raja

Associate Director — Data Analytics, AI & BI | Pharma & Life Sciences

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🔗 PharmaRAG: [pharma-rag-assistant.streamlit.app](https://pharma-rag-assistant.streamlit.app) | PharmaAgent: [pharma-agent-copilot.streamlit.app](https://pharma-agent-copilot.streamlit.app)  
| PharmaContent: [pharma-content-generator.streamlit.app](https://pharma-content-generator.streamlit.app)

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## PROFESSIONAL SUMMARY

Associate Director with 12+ years of experience designing AI-powered data analytics solutions that drive measurable business outcomes. Proven expertise in GenAI, Agentic AI, RAG, MCP, dbt pipelines, Snowflake Cortex, and BI — recently building and deploying 3 production-grade pharma AI projects. Led cross-functional teams of 24 engineers and analysts delivering scalable Snowflake-based dashboards, AI-augmented reporting, and clinical analytics platforms. Achieved 50% reduction in development timelines and 40% dashboard performance improvement. Seeking senior AI, data engineering, or analytics leadership roles in Healthcare, Pharma, or SaaS.

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## GENAI & AGENTIC AI PORTFOLIO — 3 LIVE PROJECTS

### Project 1 — PharmaRAG: FDA Regulatory Knowledge Assistant | RAG · Snowflake Cortex · dbt · LLM · Semantic Search

- ◆ Snowflake-native PDF parsing via PARSE\_DOCUMENT — no Python libraries, layout-preserving extraction
- ◆ dbt 3-layer pipeline (staging → intermediate → marts) with 13 automated data quality tests and full lineage
- ◆ Cortex Search hybrid retrieval (semantic + keyword) over 1,011 chunks from 40 FDA oncology guidance documents
- ◆ 87% retrieval accuracy on 10-question eval harness · 0% hallucination rate · mandatory [SOURCE X] citations

**Tech:** Snowflake Cortex · EMBED\_TEXT\_768 · Cortex Search · Mistral Large 2 · dbt Core · Python · Streamlit

🔗 [pharma-rag-assistant.streamlit.app](https://pharma-rag-assistant.streamlit.app)

### Project 2 — PharmaAgent: Agentic Clinical Trial Operations Copilot | LangGraph · Multi-Agent · Pharmacovigilance · Agentic AI

- ◆ LangGraph stateful orchestrator with conditional routing across 3 specialized agents and human-in-the-loop review
- ◆ Trial Data Agent — queries 914 ClinicalTrials.gov oncology trials via text-to-SQL on Snowflake
- ◆ Adverse Event Agent — detects FDA FAERS safety signals using Reporting Odds Ratio (ROR) — real pharmacovigilance methodology; 21 strong signals detected (ROR > 5, serious rate > 80%)
- ◆ dbt pipeline with 6 models across 4 schemas · 13 data quality tests · signal detection pre-computed in marts layer

**Tech:** LangGraph · LangChain · Snowflake Cortex · dbt Core · ClinicalTrials.gov API · FDA FAERS · Python · Streamlit

🔗 [pharma-agent-copilot.streamlit.app](https://pharma-agent-copilot.streamlit.app)

### Project 3 — PharmaContent: GenAI Medical Affairs Content Generator | MCP · GenAI · Content Generation · Audit Trail

- ◆ MCP (Model Context Protocol) server with 6 standardized tools over Snowflake clinical trial and FAERS data
- ◆ Plain language summary generator for 3 audiences (patient, HCP, regulatory reviewer) using Cortex COMPLETE
- ◆ Competitive intelligence briefs from real ClinicalTrials.gov data · regulatory context search via Cortex Search
- ◆ Full pharma-compliant audit trail — content type, model used, prompt version, status, timestamps in Snowflake

**Tech:** MCP · Snowflake Cortex · Mistral Large 2 · Python · Streamlit

🔗 [pharma-content-generator.streamlit.app](https://pharma-content-generator.streamlit.app)

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## WORK EXPERIENCE

### Associate Director — Data & AI · Syneos Health · Remote, India · July 2021 — Present

- › Lead 24 engineers & analysts delivering AI-powered analytics on Snowflake, Cortex AI & Power BI — achieving 40% dashboard performance improvement driving executive decision-making across clinical, commercial, and HR functions
- › Designed unified Snowflake star schema data model for multi-client & multi-product architecture — reducing development timeline by 50% and enabling new client onboarding with zero rework
- › Lead full Agile Scrum delivery and cross-functional stakeholder management — translating complex requirements into scalable analytics solutions while mentoring the team on Snowflake, Cortex AI, and best practices
- › Built real-data prototyping using Streamlit + Cortex AI — eliminating mock-data rework and validating stakeholder KPIs before production build

### Senior Business Analyst · Kyyba India Pvt Ltd · Remote, India · May 2020 — July 2021

- › Converted HTML reports to Jasper Reports, led requirements analysis for RFEs, resolved data quality issues, and designed UI/UX mockups in Adobe XD — improving reporting delivery time and user experience

Career Break — Marriage & Maternity

March 2017 — May 2020 · Remained engaged with data analytics field through self-directed learning

Product Specialist · Cognizant Technology Solutions · Chennai, India · August 2011 — March 2017

- › Led design, build, and enhancement of healthcare payer solutions across membership, claims, and benefits modules for multiple US clients — managing defect resolution and improving operational efficiency

SKILLS & TOOLS

**AI & GenAI:** Snowflake Cortex AI · LangGraph · LangChain · MCP (Model Context Protocol) · RAG · Agentic AI · LLM Prompt Engineering · Pharmacovigilance Signal Detection · ChatGPT · GitHub Copilot · Claude

**Data Engineering:** dbt Core · Snowflake · Python · SQL & PL/SQL · ETL/ELT Pipeline Design · Data Modelling · Star Schema · Data Governance · Incremental Loading · REST APIs · Git

**BI & Analytics:** Power BI · Tableau · Streamlit · Jasper Reports · Dashboard Design · KPI Development · Clinical Trial Analytics · Pharma Commercial Analytics

**Cloud & Infra:** Snowflake Cloud Data Warehouse · AWS (S3, Glue, Athena) · Databricks · Agile Scrum · JIRA

**Domain:** Clinical Trials · Pharmacovigilance (FDA FAERS) · Regulatory Affairs (FDA Guidance) · Pharma Life Sciences · Healthcare Payer Systems · Claims & Benefits

KEY PROCESS IMPROVEMENTS & IMPACT

|                            |                                                                                                  |
|----------------------------|--------------------------------------------------------------------------------------------------|
| 87% RAG retrieval accuracy | PharmaRAG — FDA guidance RAG system with 0% hallucination rate and mandatory citations           |
| 21 safety signals detected | PharmaAgent — ROR-based pharmacovigilance signal detection on 3,206 FDA FAERS reports            |
| 50% dev timeline reduction | Unified Snowflake star schema — multi-client & multi-product architecture, zero rework           |
| 40% dashboard performance  | Redesigned Power BI dashboards — enhanced UX, faster load, increased executive adoption          |
| 30% reduction in errors    | Quarterly defect review process identifying root causes and preventive actions                   |
| Zero mock-data rework      | Streamlit + Cortex AI real-data prototyping — stakeholder KPI validation before production       |
| Configurable KPI framework | Reusable KPI logic adopted across multiple clients — table-level config, zero engineering rework |

CERTIFICATIONS & EDUCATION

- › ORACLE Certified SQL Expert (OCA) · Oracle · 2014
- › Master Certification in Data Science · Simplilearn · 2020
- › AHM 250 — Introduction to Healthcare · AHIP · 2012
- › BE Electronics & Communication Engineering — 80%, Top 10% · Anna University · 2011

AWARDS & RECOGNITION

- › Exceptional Performer — Latest appraisal cycle, highest performance rating · Syneos Health
- › Consistent Strong Performer — Multiple consecutive appraisal cycles · Syneos Health
- › Best BI Visualization Idea — Cash prize Rs.10,000 for outstanding data visualization concept
- › Associate of the Quarter — Q4 2016 · Cognizant Technology Solutions · Client delivery excellence

Languages: English (Professional) · Tamil (Native) · Telugu (Proficient)