ROHAN ROUT

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SUMMARY

Experienced AI/ML Engineer with professional expertise in building, fine-tuning, and deploying enterprise GenAI and LLM-based systems. Skilled in designing autonomous AI agents, advanced RAG pipelines, and orchestration workflows using LangChain and LangGraph. Deeply focused on Agentic frameworks, including Model Context Protocol (MCP) tool integration and Claude-powered workflow development. Proven track record deploying scalable ML models on cloud-native environments.

WORK EXPERIENCE

Infosys Limited – **Associate Business Analyst (GenAI Developer)** **Dec 2025 – Present**

- Contributed to AI-agent-based automation workflows for employee support use cases on the Navi AI Assistant platform.
- Created LangGraph-based agent flows for workflow execution, routing, tool calling, and human-in-the-loop interactions.
- Supported RAG-based knowledge retrieval over HR policy and transaction service data.
- Assisted in orchestration of agents, retrieval pipelines, MCP tools, model endpoints, and response tracking components.
- Supported IDP pipeline setup and Kubernetes deployment activities for AI assistant services.
- Participated in testing and production integration with Ollama and GPT-based models.

Cognizant – **AI/ML Engineer (Programmer Analyst)** **Mar 2023 – Nov 2025**

The TJX Companies, Inc. (Retail Domain)

- Built and deployed ML models on AWS SageMaker for sales forecasting and anomaly detection.
- Automated ETL pipelines using AWS Glue, Athena, and Lambda to streamline reporting workflows.
- Worked on Dataiku for rapid prototyping of ML models, improving development speed by 30%.
- Designed scalable data solutions on cloud platforms ensuring cost optimization and performance tuning.
- Integrated APIs between AWS ML services and visualization tools like Power BI and QuickSight.

> **Core Stack:** Python, Pandas, Azure OpenAI, Microsoft Copilot & Autopilot, Generative AI, LangChain, API Integration

SKILLS & TECHNOLOGIES

Agentic Architecture:	Model Context Protocol (MCP), Claude, LangGraph, Autonomous Agents, Tool Calling, Human-in-the-Loop Orchestration
Programming:	Python, SQL, TensorFlow, PyTorch, Pandas, NumPy, Microsoft Copilot, Autopilot Tools, Azure Data Factory
Frameworks & Tools:	LangChain, Hugging Face, Transformers, Kubernetes, Docker, NLP, CNN
LLMs & Pipelines:	Claude, GPT-4, Gemini, Ollama, RAG Pipelines, Azure OpenAI, Retrieval & Integration
Core Concepts:	Machine Learning, Deep Learning, Model Evaluation, API Integration, Cost Optimization, GenAI

PROJECTS

Retail Demand Forecasting System **AWS Implementation**

- Developed ML models in AWS SageMaker to forecast sales demand across 100+ retail stores.
- Automated data preprocessing pipelines using AWS Glue and Athena.
- Enabled real-time dashboards in QuickSight for business insights and teams.

> **Core Stack:** Python, Pandas, AWS SageMaker, AWS Glue, Athena, QuickSight

CERTIFICATIONS

AWS Certified Machine Learning Engineer - Associate **[Verify Credential]**

AWS Certified Cloud Practitioner **[Verify Credential]**

Machine Learning A-Z: AI, Python, Power BI & Cloud Fundamentals [Verify Credential]

EDUCATION

Master of Science in Computer Science **Graduation: Oct 2023**

Binod Bihari Mahto Koyalanchal University, Dhanbad **CGPA: 7.13**