

Shivdayal Singh

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Summary

Results-driven Machine Learning Engineer with hands-on experience in Time Series Forecasting, Computer Vision, and Natural Language Processing. Adept at designing scalable ML pipelines, deploying models in cloud environments, and driving business impact through data-driven solutions. Proficient in Python, SQL, Azure, AWS, and Databricks. Passionate about solving real-world problems using cutting-edge AI technologies.

Skills

- **Programming** : Python, SQL, PySpark
- **Machine Learning /AI**: Time Series Forecasting, NLP, Computer Vision, Reinforcement Learning, LangChain, LangGraph
- **MLOps & Tools**: Git, CI/CD, OR-Tools, MLflow
- **Cloud Platforms & Tools**: Azure (Databricks, ML Studio), AWS
- **Data Engineering & Processing**: SQL, Spark, Databricks

Education

Indian Institute of Technology, Kharagpur

Master of Technology

Experience

Company: Quantiphi Analytics Solution Pvt Ltd.

Aug 2022 – Present

Project: Food and Beverage Recommendation | Client: Disney

Dec 2024 – Present

- Engineered a personalized recommendation engine using Meta’s Pearl framework to enhance customer engagement.
- Applied causal inference and reinforcement learning to optimize item suggestions based on user behavior.
- Designed multi-hot encoded cart history features and integrated association rule mining into the reward function.
- Trained neural linear bandit models with Thompson Sampling, achieving a **25% hit rate** on test data.

Technologies: AWS, Reinforcement learning, Data Analysis.

Project: Demand Forecasting | Client: CONA

Nov 2023 – Oct 2024

- Built automated data pipelines processing data from Snowflake and mapping tables, reducing manual overhead.
- Developed a custom forecasting engine using Prophet, LightGBM, and Auto ARIMA, outperforming BlueYonder by up to **3.28%**.
- Integrated promotions and holiday features to improve temporal modeling and forecast precision.
- Deployed scalable solutions in Azure Databricks across two major bottlers (CCCi & United).

Technologies: Azure Databricks, SQL, PySpark, Prophet, LightGBM, Auto ARIMA

Project: Trailer Tracking | Client: CONA

Jan 2023 – Oct 2023

- Delivered a computer vision solution to extract trailer metadata, targeting **\$500K ROI** per bottler annually.
- Benchmarked YOLOv8 and implemented custom object detection algorithms achieving **90%** accuracy.
- Integrated OCR tools (PaddleOCR, CRAFT, Form Recognizer) to automate trailer check-in/out processes.
- Designed vertical text recognition models and segmentation pipelines to reduce manual errors.

Technologies: Azure ML Studio, YOLO, OCR, Image Segmentation

Projects

BlogSmithAI

FastAPI, LangGraph, LangChain, Open AI

FastAPI microservice generating SEO-optimized blog content using LangGraph, LangChain, and Groq LLM.

MCP Multi-Agent Travel Assistant

LangChain, LangGraph, MCP, Groq LLM

Multi-agent travel planner coordinating bookings and budgets via LangGraph and Groq LLM.

Agentic AI News

Ollama, LangGraph, LangChain, Tavily API, Streamlit

AI-powered news aggregator with LangGraph orchestration and Tavily API, deployed via Streamlit.

Certifications

- **Azure**: AZ-900 (Fundamentals), AZ-104 (Administrator), AZ-305 (Solutions Architect Expert)
- **Langchain**: Develop LLM powered applications
- **Generative AI** : Transformers & LLMs Mastery

Leadership & Teaching

- **Event Coordinator (Alchemy)** : Led technical and sports fest operations, ensuring high engagement and execution.
- **Teaching Assistant (Design Lab CH69003)**: Mentored 70+ students in Python, managed lab sessions, and evaluated assignments.