

# Shivdayal Singh

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## PROFILE

Machine Learning Engineer with 3+ years of experience in Time Series Forecasting, Computer Vision, and NLP. Skilled at building scalable ML pipelines in cloud platforms (Azure, AWS) and delivering measurable business impact through data-driven solutions.

## SKILLS

- **Programming / Frameworks:** Python, SQL, PySpark, FastAPI
- **MLOps, DevOps & Tools:** Git, CI/CD, MLflow, Docker, Kubernetes
- **Data Engineering & Processing:** SQL, Spark, Databricks, Power BI
- **Machine Learning /AI:** Time Series Forecasting, NLP, Computer Vision, Deep Learning, Reinforcement Learning, LLM Fine-Tuning, Prompt Engineering, Agentic AI, Generative AI, Responsible AI
- **Cloud Platforms & Tools:** Azure (Databricks, ML Studio), AWS, GCP

## EDUCATION

Indian Institute of Technology, Kharagpur Master of Technology

## EXPERIENCE

Company: Quantiphi Analytics Solution Pvt Ltd., Mumbai, India Aug 2022 – Present

Project: Food and Beverage Recommendation | Machine Learning Engineer Dec 2024 – Present

- Engineered a personalized recommendation engine using Meta’s Pearl framework, improving click-through rate by 8%.
- Applied causal inference and reinforcement learning to optimize item suggestions, increasing session engagement by 12%.
- 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, Gymnasium, Contextual Bandits, Actor Critic, DQN & Double DQN, NLP, PyTorch, Git.

Project: Demand Forecasting | Machine Learning Engineer 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%.
- Enhanced temporal modeling by incorporating promotions and holiday features, resulting in a 5% accuracy improvement.
- Deployed scalable solutions in Azure Databricks across two major bottlers (CCCi & United).
- Technologies:** Azure, SQL, PySpark, Optuna, Prophet, LightGBM, Auto ARIMA, XGBoost, Power BI, Prompt Engineering

Project: Trailer Tracking | Machine Learning Engineer 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, Pytorch, OpenCV, OCR, Object Recognition & Detection, CNNs, VMs, Git

## PROJECTS

- **BlogSmithAI:** FastAPI microservice generating SEO-optimized blog content using LangGraph, LangChain, and Groq LLM.
- **MCP Multi-Agent Travel Assistant:** Multi-agent travel planner coordinating bookings and budgets via LangGraph and Groq LLM.
- **Agentic AI News:** 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.