

# SHIVANGI TRIPATHI

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## PROFILE SUMMARY

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Data Scientist with 2.5+ years of experience building and deploying machine learning, time series, and optimization models. Strong expertise in Python, SQL, Azure, SHAP, production ML systems, ETL pipeline. Skilled at working cross-functionally with stakeholders to align analytical strategies with organizational goals.

## WORK EXPERIENCE

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### Anheuser-Busch InBev (Ab InBev)

April 2025 – Present

*Data Scientist, Bangalore, India*

- **Designed and implemented differential evolution based optimization models** for large scale data driven decision making to determine optimal monthly fleet mix while minimizing logistics cost under complex operational constraints.
- Delivered cost efficient fleet mix optimization recommendations in collaboration with cross functional stakeholders which **contributes to \$5M+ annual savings in variable logistics costs** across the supply chain network.
- Applied **PCA and clustering on 500K+ client records** to segment logistics demand patterns.
- Designed and implemented an empties load plan optimization system for brewery-DC logistics, using empties forecasting and **PuLP-based optimization** to plan return loads, **eliminating empty truck trips**.
- Improved fleet utilization and transportation efficiency for empties load plan, achieving **\$2.5M in annual logistics cost savings**.

### Reliance Jio

June 2023 – April 2025

*Junior Data Scientist, Bangalore, India*

- Developed an **end-to-end cattle heat detection model** from scratch using **ARIMA-based time-series feature engineering** on routine behavior residuals, followed by **Logistic Regression classification**, improving alert precision by 11% and recall by 14%.
- Deployed the model in production across all JioGauSamriddhi cattle neck tags, **contributing to 4x YoY revenue growth and approximately Rs. 2 crore revenue**.
- **Developed an end-to-end cattle activity recognition system** using accelerometer data, **performing feature engineering with scikit-learn** and training **Random Forest and XGBoost models** for activity classification.
- **Owned end-to-end data preprocessing pipelines**, feature engineering, and model evaluation using precision, recall, F1 score, and cross validation.
- **Integrated Explainable AI techniques** using SHAP to monitor model behavior, validate predictions, and improve reliability.

## EDUCATION

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### B.Tech in Electronics and Communication Engineering

2019 – 2023

Jaypee Institute of Information Technology, Noida

## SKILLS

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**Programming and Tools:** Python, SQL, Git, PySpark, Azure Data Factory, Azure Databricks, Docker, Linear Programming, Optimization, Model Deployment, Monitoring, MLOps

**Machine Learning:** Regression Models, Classification Models, Predictive Modeling, Statistical Modeling, Feature Engineering, Model Evaluation Metrics, Deep Learning, Cross Validation, Operations Research

**Analytics and Visualization:** Statistical Analysis, A/B Testing, Reporting, Business Insights, Microsoft Excel, Data Visualization(PowerBI)

**Artificial Intelligence:** Natural Language Processing, Generative AI, Agentic AI

**Soft Skills:** Stakeholder Management, Problem Solving, Communication, Storytelling, Cross-team Collaboration, Scrum

## PROJECTS

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### GenAI Document Question Answering System

- Built a retrieval augmented generation pipeline using large language models and vector databases to answer user queries from documents.
- Implemented document ingestion, chunking, and vector embeddings to enable semantic search over textual data.
- Designed the system to reduce hallucinations by restricting responses strictly to retrieved contextual information.