

# Akash K

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## Summary

Data Scientist with experience delivering end-to-end solutions across **machine learning, optimization, and data engineering**. Skilled in building predictive models, designing custom heuristics, and architecting AI-driven systems for logistics, retail, and healthcare domains. Strong background in **time series forecasting, statistical analysis, and scalable data pipelines**, with hands-on expertise in Python, cloud platforms (AWS, GCP), and modern ML frameworks. Recognized for innovation and problem-solving in high-impact projects.

## Skills

**Languages:** Python, SQL, Bash

**ML:** scikit-learn, XGBoost, PyTorch

**Data:** Pandas, Spark, Snowflake, Teradata

**Cloud/DevOps:** AWS, SageMaker, Bedrock, GCP, Docker, Git

**Other:** Statistics, Experimentation (A/B), Visualization

## Experience

**Innova Solutions**

*Data Scientist*

Hyderabad, IN

*Sep 2023 – Present*

## Projects

### 3D Bin Packing Optimization

*Logistics Project Steel Pipe Manufacturing*

*2023*

- Solved a long-standing **3D bin packing problem** that had remained unsolved for 2 years despite attempts with linear programming.
- Designed a custom heuristic using **First-Fit strategy combined with Genetic Algorithms**, achieving near-optimal packing efficiency.
- Eliminated dependency on expensive third-party solvers and reduced logistics costs significantly through improved container utilization.
- Leveraged **AWS SageMaker** for large-scale experimentation, training genetic algorithms across multiple configurations in parallel to accelerate convergence.

### Retail Navigator

*AI Agent for Business Intelligence Retail Company*

*2024*

- Architected an **agentic BI system** that ingests retail sales data and generates interpretable insights for analysts and decision-makers.
- Implemented custom **LLM orchestration (GPT-3.5)** with code execution sandbox and tool integrations built before modern agentic frameworks existed.

- Enabled BI teams to query complex datasets conversationally, reducing manual SQL/reporting overhead and accelerating decision-making.
- Prototyped and benchmarked orchestration workflows on **GCP Vertex AI**, validating scalability before integrating with custom in-house infrastructure.

### **Delivery Date Prediction with Time Series Models**

*Logistics Project Steel Pipe Manufacturing*

*2024-2025*

- Analyzed delivery dates manually entered by operators, identifying significant **white noise and inconsistencies** that reduced forecasting accuracy.
- Proposed a novel **heuristic standardization model** to generalize noisy inputs and establish a robust baseline.
- Designed a hybrid approach to **regress on residuals** from the heuristic model, improving predictive power and enabling more reliable scheduling.
- Developed, trained, and deployed time series models on **AWS SageMaker**, leveraging scalable infrastructure for faster experimentation and reproducible workflows.

### **Healthcare Data Migration**

*Data Engineering Project Medical Care Company*

*2025*

- Contributed to large-scale **data migration** following a company acquisition, integrating datasets across Snowflake and Teradata.
- Developed robust **Python ingestion pipelines** and automation scripts for data validation, transformation, and ETL workflows.
- Leveraged **AWS Glue** for orchestration and configured Snowflake + Teradata for accurate and secure data transfer.
- Implemented job scheduling and monitoring with **Control-M**, ensuring reliability and compliance in data workflows.

### **Education**

**Amrita University**, B.Tech in Computer and Communication Engineering

2019 – 2023

Relevant Coursework: Probability & Statistics, ML, Data Mining, DBMS

### **Certifications**

Google Cloud Professional Machine Learning Engineer

2025

### **Awards**

Innovation Award Recognized for building automated ML pipeline adopted across teams

References available upon request.

Last updated: September 9, 2025