

# 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

*Gerdau*

- 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.

### Delivery Date Prediction with Time Series Models

*Gerdau*

- 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

*Centene*

- 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.

## Onboarding Automation

*McKesson*

- Designed and built an **AI-driven web automation extension** to automate complex onboarding workflows across internal web applications.
- Integrated an **MCP (Model Context Protocol) server** with a **Playwright-based automation layer**, enabling autonomous UI navigation and task execution.
- Developed a **custom bridge server** to securely translate AI decisions into deterministic browser actions.
- Implemented end-to-end workflow orchestration with validation, retries, and failure handling to ensure reliability in production environments.

## 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.

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