

Inventory
Pricing Optimization — Forecasting — Scalable ML Pipelines — IIT Kanpur — 8 Patents — McKinsey — EY — Mastercard

Summary

Senior Data Scientist with 10+ years of experience building and deploying predictive and prescriptive models across pricing, inventory, and marketing domains. Expertise in time-series forecasting, optimization (MIP, Pyomo, Gurobi), and probabilistic modeling. Adept at translating complex business problems into scalable data science solutions using Databricks, Spark, and Kedro. Proven track record of stakeholder alignment, team mentorship, and delivering measurable business impact. IIT Kanpur graduate.

Education

Bachelor of Technology
IIT Kanpur
Jul 2010 - May 2014
CGPA: 7.1

Skills

Programming: Python, R, SQL, Julia, C
Modeling: Pyomo, Gurobi, XGBoost, Prophet, ARIMA, MIP, RL
Data Engineering: Spark, Kedro, Databricks, Snowflake
Cloud: Azure, GCP
Visualization: Power BI, Tableau, R Shiny
MLOps: Docker, Git, CI/CD

Work Experience

Senior Data Scientist Nov 2019 – Present
McKinsey & Company Gurgaon

- Led pricing and demand forecasting initiatives for automotive and CPG clients, aligning ML solutions with inventory planning and commercial strategy.
- Designed MIP-based pricing optimization models using Pyomo, improving promotional ROI and clearance mark-down efficiency.
- Developed linear mixed-effects and time-series models to estimate cross-product elasticities, achieving a 7% sales uplift.
- Deployed models on Databricks and Spark to process 500M+ records, supporting regional inventory and pricing decisions.
- Mentored 10+ junior data scientists; reviewed code, validated models, and standardized pipeline development using Kedro.
- Partnered with supply chain, finance, and merchandising teams to embed models into decision workflows.

Machine Learning Engineer May 2019 – Oct 2019
INDMoney Gurgaon

- Developed a feature-rich dashboard for relationship managers to analyze AUM and risk scores, indirectly supporting inventory allocation of financial products.
- Collaborated with cross-functional teams to identify data-driven interventions for product feature enhancement.

Senior Consultant - Data Sciences Oct 2017 – May 2019
EY (Ernst & Young) Dubai & Mumbai

- Built ECL forecasting pipelines using logistic regression and macroeconomic overlays, analogous to inventory and credit risk modeling.
- Automated scenario generation and regulatory reporting using probabilistic forecasts and PIT/TTC model calibration.
- Improved provisioning accuracy and turnaround time by 65%, influencing risk strategy across major banking clients.

Data Scientist Jan 2016 – Jun 2017
MasterCard Advisors Gurgaon

- Built ML pipelines using Spark and Hadoop to segment users by spending behavior, aiding personalized pricing campaigns.
- Enabled 10% uplift in customer engagement and 30% cost reduction in acquisition through targeting optimization.
- Co-inventor on eight patent applications, including one granted: US20180349851A1.

Business Analyst
Fractal Analytics

📅 Jul 2014 – Dec 2015
📍 Gurgaon

- Built marketing mix and spend optimization models using regression, achieving 8% uplift.
- Developed RShiny dashboards to communicate recommendations to marketing and supply chain teams.

Projects & Leadership

- **Inventory Optimization Prototype:** Designed a Pyomo-based prescriptive model to align pricing and replenishment plans, simulating clearance strategies with 15% projected revenue improvement.
- **Mentorship at McKinsey:** Mentored 10+ junior DS, conducted technical review sessions, drove model validation standards across projects.
- **Reinforcement Learning POC:** Prototyped RL-based budget allocator using Q-learning to test marketing ROI under different constraints.

Patents & Innovation

- Co-inventor on 8 patent applications at Mastercard. One granted and active: US20180349851A1 — dynamic delivery rerouting based on user bids.