

Rick Arko

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Full-stack Data Scientist and Machine Learning Engineer specializing in production ML systems, recent focus on forecasting, optimization, and decision automation at the billion-dollar enterprise scale across e-commerce SaaS and 3PL transportation platforms.

TECHNOLOGY

- **Languages:** Python, SQL, Bash, R, TypeScript, Agentic Development (Claude Code, Codex, Cursor, OpenCode)
- **Forecasting & Optimization:** Nixtla, SARIMAX, ETS, Prophet, Probabilistic Forecasting, Hierarchical Reconciliation
- **Machine Learning & Data:** NumPy, SciPy, scikit-learn, PyTorch, AutoGluon, LightGBM, XGBoost, CatBoost, Pandas, Polars, PySpark, DuckDB, MLflow, Optuna, Quantile Regression, Conformal Calibration, MongoDB, SHAP, CrewAI, RAG
- **Platforms:** Databricks, AzureML, Azure, AWS, Docker, FastAPI, Flask, Streamlit, CI/CD, Git, Unity Catalog, Plotly Dash, Vue.js

EXPERIENCE

ShipBob – Chicago, IL

Data Scientist / Platform Owner

Feb 2022 -- May 2026

Technical lead and owner of the ML platform (Databricks/AzureML) powering forecasting, transit-time prediction, inventory optimization/replenishment, labor planning, and zone-skipping across a billion-dollar e-commerce fulfillment platform delivering hundreds of millions of orders for thousands of customers.

- Delivered a unified ML forecasting engine for labor and transportation planning that replaced hundreds of site-specific Prophet models, reducing daily weighted error from approximately 30% to a 15% baseline
- Built simulation and backtesting engines for forecasting, inventory replenishment, and delivery estimation enabling offline evaluation against strategic KPIs before production release
- Developed a custom delivery estimation solution under tight timelines, to secure onboarding for a multi-billion-dollar account, distilled ML outputs into a static lookup — the solution preserved 80% of modeled lift and demonstrated feasibility with Docker Compose and Locust swarms
- Established scientific engineering standards across ~50 scientific repositories (git, CI/CD, linting, testing, backtesting), mentored and directly managed junior scientists

Coyote Logistics – Chicago, IL / Remote

Senior Data Scientist / ML Engineer

June 2021 -- Feb 2022

Data Scientist

June 2017 -- Feb 2022

Supply Chain / Data Science Analyst

July 2015 -- June 2017

Founding member of two-person Data Science organization, instrumental team builder, individual contributor and tech lead across key strategic initiatives: BookItNow, LoadRec, MarketRate/Cost, Auto Tender Accept, Market-Based Carrier Compensation and more.

- Owned predictive backend for enterprise pricing services with millions of dollars on the line
- Interviewed, hired, and mentored Data Science applicants helping to grow from a department of 2 to 10 or more
- Developed pricing models from concept to production using KNN-regression, LightGBM, XGBoost, CatBoost, Random Forest Quantile Regression, etc.
- Implemented trusted, explainable ML solutions by pruning black-box models to distill coherent, SHAP-informed explanations for production load matching and pricing services
- Automated statistical forecasting pipelines using SARIMAX and ETS hybrid models
- Built network optimization algorithms to match empty UPS assets to the Coyote freight supply

EDUCATION

Lake Forest College – Lake Forest, IL

December 2014

Bachelor of Arts in Economics and Mathematics

AWARDS

2nd Place - Software Technology Group AI Hackathon



ShipBob · Dec 2025

Agentic Multi-Modal Demand Forecasting: delivered a secure enterprise web app in one day with two teammates to address e-commerce cold-start demand prediction. Combined guided agentic feedback, RAG/vector search, CLIP image embeddings, and historical/related-product signals to estimate demand distributions with uncertainty across forecast horizons.

Tools: CrewAI, CLIP, Streamlit, Azure, Nixtla, Hierarchical Reconciliation, NER