

How Databricks Helped a Medical Equipment Company Scale Machine Learning



Background

A leading Minnesota-based medical equipment and supply organization partnered with WinWire to modernize its machine learning (ML) operations. The goal was to build a scalable, secure, and automated ML platform using Databricks on Azure to free up their data scientists from repetitive manual tasks and speed up time-to-insight.

Business Challenge

The company set out to improve how it staffed open medical roles, using machine learning to guide decisions. It had a basic model in place, but scaling impact required more. To turn growing data into outcomes that matter, it formed a dedicated data science unit focused on operational efficiency, satisfaction, and profitability. But its existing setup came with a few roadblocks.

- Machine Learning (ML) models were built and run on standalone VMs, drastically limiting scalability and collaboration.
- Re-training, monitoring, and deployment were largely manual and error-prone.
- Performance bottlenecks and dependency on local environments slowed progress.
- There was no central system for versioning, governance, or reproducibility.

Their vision was clear: build a reliable, enterprise-grade MLOps platform on Databricks, one that could support rapid experimentation and deployment while keeping compliance and consistency front and center.

WinWire Solution

WinWire built a robust MLOps solution using Databricks on Azure—integrating Azure DevOps and GitHub for version control—to standardize the full ML lifecycle. The setup enables experiment tracking, model management, and smooth team collaboration—all while ensuring compliance and traceability. The project covered both infrastructure setup and lifecycle automation—for a key ML model.

Approach:

- Engaged with the customer's business team to align goals and use case priorities.
- Developed and proposed an MLOps architecture based on industry best practices — tailored for Databricks on Azure.
- Implemented the solution using WinWire's best-practice Databricks notebooks to standardize ML workflows.
- Integrated the customer's preferred Python wheel approach within the Databricks environment to streamline model packaging and deployment.

Technologies used: Azure Databricks, Python, Azure DevOps, GitHub

Business Value

- **Significant Man-Hour Savings** — Automated model deployment and inferencing through Databricks workflows and MLFlow integration drastically reduced manual effort—freeing the data science team to focus on insights, not infrastructure.
- **Reduced Manual Interventions & Bias** — MLFlow for experiment tracking—and CI/CD pipelines configured on Azure DevOps with Databricks—made model retraining and deployment seamless—reducing human errors