A leading medical equipment and medical supply organization, leverage WinWire's MLOps services and Databricks to automate the end-to-end ML lifecycle and save man-hours of the data science team.

Background

The customer is a leading Minnesota based medical equipment and medical supply organization that connects skilled healthcare professionals and healthcare facilities globally.

Business Challenge

The emerging age of the connected, digital world means tons of data distributed to various organizations and their databases. To harness that data, the customer has created a data science unit whose charter is to harness data science and meet business goals **while improving business performance**, **improve customer satisfaction**, **medical staff satisfaction, and profitability**.

Presently, they were leveraging an application to submit open contracts (temporary positions) with travelers. The application is now assisted by a **machine learning model** to improve decision-making and thus improve productivity. The customer wanted to create a secure, internal ML platform-based solution on open-source technologies and support their data science teams to leverage data efficiently.

Key challenges:

- Implementation of the ML use case is done on VM
- There isn't a scope for collaboration when it comes to the development of the local system
- Performance and computing for scaling ML projects are limited in the local environments
- There are dependencies on other local (tools) for implementation
- Model packaging and model deployment are challenging
- Continuous model re-training and model deployments need human interventions based on the existing architecture
- Handling model drifts and monitoring the performance of models is challenging
- Reproducible MLOps framework is required to bring different models to live
- Automation/scheduling of all tasks in a local environment is inefficient

WinWire Solution

WinWire team aligned well with what the customer expected. They looked for a highly flexible collaboration model and rapid development, which the WinWire team delivered.

WinWire created a technical environment that supports collaboration and communication between data engineers, data scientists, and operations professionals to manage machine ML lifecycle in production.
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Increased automation and improved the quality of production ML while keeping in mind business objectives and benefits. Migrated the applications prediction ML ecosystem from its current environment to the newly designed and built **MLOps on Azure**, using **Databricks** and **MLFlow**.

Approach:

- Meetings customer's Business team members
- Develop and propose an MLOps architecture based on best practices
- Implementation of MLOps Solution with WinWire Best practices notebooks approach
- Implementation of MLOps Solution with Medical Solutions preferred python wheel approach

Business Value

- Reproducible framework for managing end to end ML lifecycle
- Automated model deployment and inferencing, which resulted in man-hours savings
- Reduced manual interventions and bias
- Robust environment for rapid ML experimentation

WinWire Technologies

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