

Build Fast, Secure AI Applications that Generate Business Impact

Deploy machine learning models to access real-time recommendations, prevent fraud, and predict failures.

Challenge Summary

Building, deploying, and maintaining an AI application can be difficult and sometimes nonviable. What seems straightforward in the lab can turn into a complex, time-consuming, and costly effort when deployed. Businesses need a way to simplify the adoption of machine-learning efforts.

Benefits Summary

- Accelerated AI deployment with an MLOps platform
- Cost reduction
- Multicloud freedom
- Improved data management
- Always-on availability
- Best-in-class security

Instead of a siloed, complex, and manual process, enterprises need a solution that empowers teams to adopt a production-first approach to building AI pipelines. This is possible with a modular strategy whereby various parts of workflows provide a continuous, automated, and production-ready environment. Data is stored safely and securely for real-time access...anytime, anywhere in the cloud.

As business data continues to grow rapidly, enterprises across all industries are searching for ways to transform this information into innovations and competitive advantages. Improved tools and methods are needed to help convert complex data into simplified solutions that can be applied and make a difference in the business world. That's where data science comes in. The data science field focuses on advanced data analytics and modeling, using mathematics, statistics, programming, and machine learning (ML) to extract valuable—often predictive information—from large data sets.

Especially in times of economic uncertainty, enterprises look to ML or artificial intelligence (AI) for solutions that save costs and uncover new revenue streams.



Challenge/Problem

When businesses start working with AI, the process is usually straightforward, beginning with a model in the physical lab. At deployment, however, the AI can morph into a complex, time-consuming, and costly approach. While data science teams can successfully create a preliminary functional model on their system, an AI application can fail quickly once put to work in the real world. Teams may need to re-engineer the flow, causing a lengthy, inefficient, and expensive production schedule.

In this all-too-common scenario, building, deploying, and maintaining the actual AI application is acutely painful, and sometimes nonviable.

Modern applications in which AI models provide real-time recommendations, prevent fraud, predict failures, and guide self-driving cars require significant data ML and engineering efforts. And with those requirements comes the need for a data analytics and modeling solution that makes it all feasible, effective, and reproducible.

Data-science components must be robust, performant, highly scalable, and aligned with agile software and DevOps practices. Organizations looking to embed AI into their business practices need to create processes that are repeatable and reproducible, so that more AI applications can be built, deployed, and managed on an ongoing basis.

Data science is too crucial to be held back by inefficiencies or delays.

Solution Approach

Instead of a siloed, complex, and manual process, enterprises need a solution that empowers teams to adopt a production-first approach to building AI pipelines. This is possible with a modular strategy whereby various parts of workflows provide a continuous, automated, and production-ready environment. This eliminates the need to refactor code, add glue logic, and spend significant efforts on data and ML engineering.

With reusable existing components, resource sharing, and efficient scaling of data science, Seagate® Lyve™ Cloud and Iguazio MLOps platform offer businesses a scalable, automated, and cost-effective approach to innovation through AI.

Seagate Solution

Seagate® Lyve™ Cloud is an S3-compatible object storage as a service designed for data analytics and AI workloads. It enables multicloud freedom to optimize storage costs and resiliency, and enhance data mobility.

The multicloud provides businesses with the ability to match solutions to business and organizational needs, combining the scalability and flexibility of various public-cloud services. This allows them to choose their IT infrastructure, as well as customize it to their needs and data preferences. You can reduce overall total cost of ownership (TCO) by selecting the most cost-effective combination of private- and public-cloud models. With Lyve Cloud, teams can transfer data seamlessly across public- and private-cloud environments without extra charges for egress and API calls. Access to needed data anytime, anywhere without costly delay is the result of our best-in-class availability and durability. Cut your cloud storage costs by more than half with no extra surprises on your bill because with Lyve Cloud, you pay per terabyte and that's it. Additionally, your data is encrypted in flight and at rest, and will always be safe with ISO 27001 and SOC 2 certifications, demonstrating Lyve Cloud's commitment to the most stringent, globally recognized data-security standards.

And when it comes to your customers, Lyve Cloud enables multicloud freedom with access to client data as they need it.



Partner Solution

The Iguazio MLOps (machine learning operations) Platform enables enterprises to build, deploy, and manage automated ML pipelines, drastically shortening the time required to create real business value with AI. Using Iguazio, organizations can accelerate deployment of AI into production and enable the continuous rollout and management of new AI services—even at scale and in real time. Model deployment times can be reduced from more than a year to just 30-90 days. The platform can be installed anywhere (multicloud, on-premise, or hybrid) to bring to life your most ambitious AI-driven strategies. Enterprises spanning a wide range of verticals use Iguazio to solve the complexities of MLOps and create business impact through use cases such as fraud prevention, real-time recommendation engines, and predictive maintenance.

Many tools in the MLOps space focus on only one part of the ML pipeline, like training or monitoring. The Iguazio MLOps Platform is an open and managed platform for the entire ML pipeline, end to end.

The Iguazio MLOps Platform consists of the following components:



MLOps orchestration: A user-friendly offering that features fully integrated workflow management, an integrated feature store, and model monitoring. All data engineers, data scientists, and MLOps engineers can work in a unified environment with simplified and automated processes.



Feature store: The feature store is a central place to build, share and manage features that are ready for use in ML applications, across teams and projects. This automated offline and online feature is engineered for real-time and batch data. It allows data to be collected, prepared, cataloged, and served for development (offline) and real-time (online) usage, while also providing a robust data-transformation service. Other features include seamless integration, production and model monitoring, and simplifying complex processes and feature engineering.



Real-time serving pipeline: Rapid development of scalable data and ML pipelines are possible using real-time serverless technology. Businesses can create complex graphics with multiple models, while supporting advanced applications like streaming, machine learning, deep-learning, and natural learning processing (NLP). Accelerating time to production and supporting real time use cases.



Model monitoring, drift detection, and retraining: With this feature, users can detect model drifts through the integrated feature store and auto-trigger retraining. Always keep your models fresh and predicting with accuracy over time.



ML CI/CD pipeline: Continuous integration/continuous deployment (CI/CD) across code, data, and models is available using mainstream ML, Git, and CI/CD frameworks. It supports various pipeline/CI engines, allowing for tracking and versioning code, data, parameters, and results with minimal effort.



Serverless automation: Nuclio, Iguazio's open-source real-time, serverless framework, provides on-demand resource utilization and auto-scaling to automate each step of the ML pipeline with high throughput, low latency, and real-time features.



Security, identity, and authentication: With Iguazio, data scientists and engineers work in a secure but flexible ecosystem across all services. Data access policies, role-based access control, and seamless active directory integration allow you to deploy data analytics solutions anywhere.





Data Engineer



Data Scientist



MLOps Engineer

Development Pipeline



BI & Data Exploration



Notebooks/ IDEs



Training & AutoML

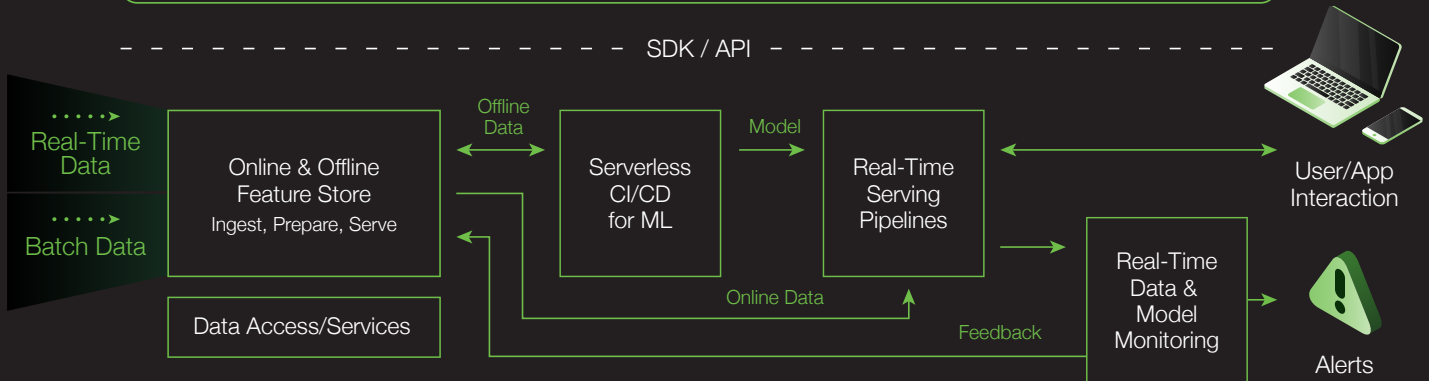


CI/CD Frameworks



Governance & Data Quality

SDK / API



Total Solution

Iguazio is the MLOps platform for Lyve Cloud, providing a cost-effective way to develop, deploy, and manage AI applications at scale, especially for big-data analytics use cases. Lyve Cloud and Iguazio accelerate the path to business value with AI and enable enterprises to activate their data directly.

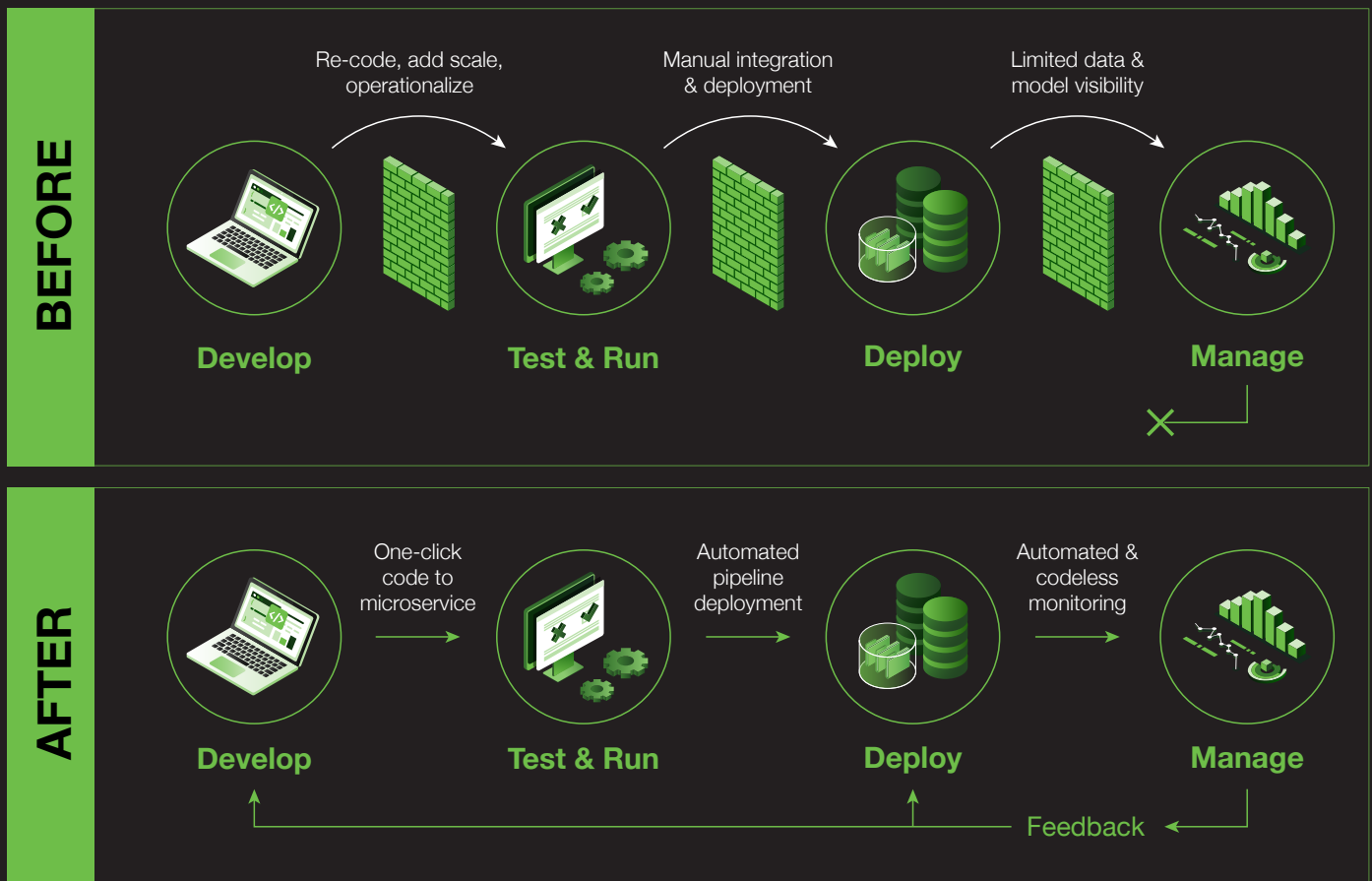
Together, both platforms allow organizations to seamlessly store and retrieve data in real-time to create automated ML pipelines for addressing various use cases.

Predictive manufacturing: With internet of things (IoT) sensors delivering real-time data from the manufacturing floor, enterprises can use AI to detect and prevent equipment malfunctions, optimize production, improve quality, and reduce costs. With Iguazio and Seagate, companies can ingest streaming and multi-variate sensor data from Lyve Cloud to develop, rapidly deploy, and monitor AI services. This leads to improved operations, eliminating faulty parts during the manufacturing process, and conducting just-in-time inventory management.

Fraud prevention: In a connected financial landscape with emerging and ever-changing threats, financial platforms need a way to prevent fraud within complex networks. With the Iguazio and Seagate solution, financial companies can serve complex algorithms against fresh data continuously and in real time to adapt to new threats and prevent fraud proactively.

Predictive maintenance: Organizations that maintain complex infrastructures, like telecoms and data-storage companies, need a way to predict equipment failures and prevent outages. With very large datasets of telemetry data originating from assets around the globe, these companies need a solution that will analyze mountains of data in real time and take smart actions to keep their infrastructure working optimally at scale. With Iguazio and Seagate, enterprises can build highly accessible and scalable ML pipelines that run very cost-efficiently to proactively protect and optimize infrastructure with predictive maintenance.





Features & Benefits Summary

- **Accelerated AI:** Accelerate time to production by 12x faster with always-on availability and streamlined processes.
- **Cost reduction:** Lower overall infrastructure cost of up to 70% through shared resources, efficient utilization, and simplified platform functionality.
- **Multicloud freedom:** Seamlessly move and deploy data across public- and private-cloud environments.
- **Improved data management:** Collaborate and retrieve data from anywhere with flexible project communication and data management.
- **Always-on availability:** Access data in real time without costly delays.
- **Data analytics:** Harness the full potential of data with platforms that provide more functionality to perform complex analytics.
- **Best-in-class security:** Feel confident that your data is protected and encrypted at all times— in flight and at rest—with systems that feature security certifications like ISO 27001 and SOC 2.



Conclusion

The Iguazio MLOps Platform—along with Seagate Lyve Cloud—enables you to develop, deploy, and manage AI applications to put machine learning into action at scale and in real time. It provides data science, data engineering, and DevOps teams with one platform to put into action machine learning and rapidly deploy operational ML pipelines with a CI/CD approach.



“Prior to implementing this solution, model deployment times exceeded 12 months. Thanks to Iguazio, these have been reduced to between 30 and 90 days.”

[Customer case studies: iguazio.com/customers](https://iguazio.com/customers)

Ready to Learn More?

Iguazio MLOps runs in Lyve Cloud. Contact us for a free POC, **talk to an expert** or visit www.seagate.com

