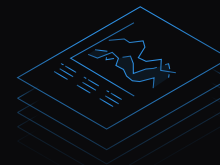




DataRobot MLOps

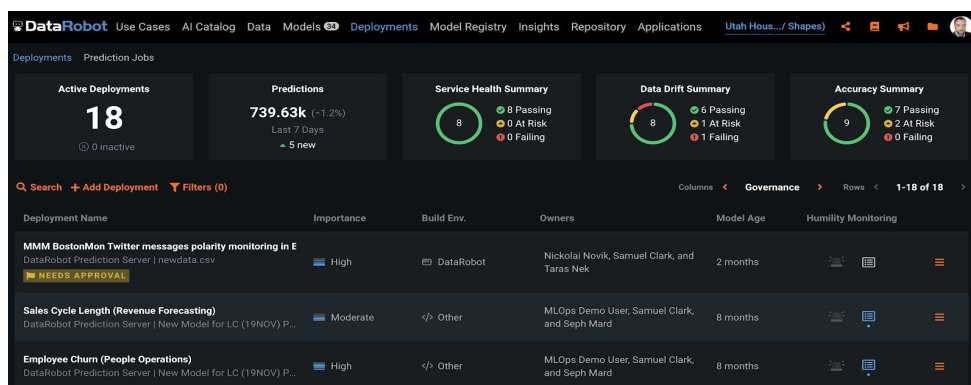


Overview

In a volatile world, machine learning models quickly turn from assets into liabilities. When faced with conditions not encountered in the training data, models make inaccurate and unreliable predictions that can undermine consumer trust or introduce other risk into the business, as well as invite regulatory scrutiny. To compound the problem, most machine learning deployment processes are complex and scattered, spanning IT and analytics organizations, which impedes the rapid detection and repair of model performance problems. In order to maintain current levels of AI adoption and to scale to take advantage of new AI opportunities, organizations need better and more standardized ways to manage the lifecycle of all their machine learning models.

Everything You Need to Scale AI in Production

With DataRobot MLOps, you have a single place to deploy, monitor, and manage all your production models, regardless of how they were created or where they are to be deployed, in a fully governed manner. MLOps improves the overall quality of your models using advanced automated machine learning health monitoring and accommodates for changing conditions via continuous automated model competitions (aka 'Champion/Challenger' mechanisms). It also ensures all centralized production machine learning processes work under a robust governance framework across your organization, leveraging and sharing the load of production management with additional teams you already have in place.



BUILD AND RUN YOUR MODELS ANYWHERE

For the first time, you can now deploy practically any model to your production environment of choice. This can be essentially any cloud, on-prem, or hybrid environment. You can also add monitoring in-place to the production models you have already deployed to get live updates on behavior and performance from a single and centralized machine learning operations system.

Machine Learning Monitoring Agents - MLOps uses the agent concept familiar in DevOps to run your models in your preferred infrastructure while monitoring them centrally within a single pane of glass. This gives you the best combination required to solve your business problems for both model serving and monitoring and allows you to quickly get metrics on any deployed model.

Central and Scalable Monitoring System - Gain instant visibility of hundreds of models, deployed anywhere and built by anyone across your organization. DataRobot MLOps includes a scalable monitoring system that is battle-tested in our managed cloud service on tens of thousands of simultaneously active deployments existing in a single installation.

Flexible Model Deployment - Easily deploy models in any open-source language or library and expose a production-quality REST API with support for real-time or batch predictions. MLOps also has built-in and native writeback integrations to systems such as Snowflake and Tableau.

“With MLOps, we were able to deploy both DataRobot and non-DataRobot models within minutes rather than weeks, enabling us to achieve a far faster time to value than with homegrown deployments. In addition, the monitoring capabilities ensure that our models are generalizing appropriately to new data. We have so far had 100% uptime on our deployments.”

— Derek Schaff,
VP, Data Science
Clear Spring Property and
Casualty Company



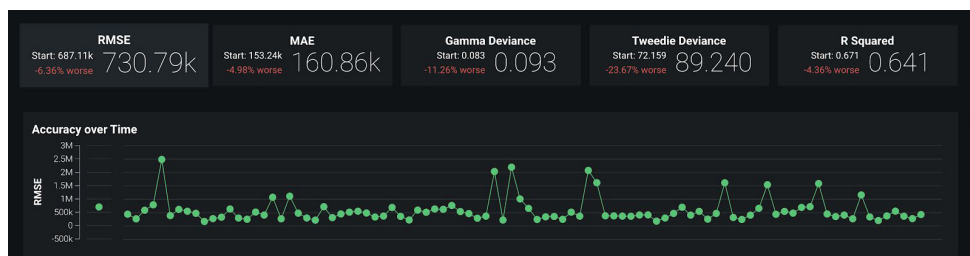
AUTOMATED MODEL HEALTH MONITORING AND LIFECYCLE MANAGEMENT

MLOps provides constant monitoring and evaluation to improve the performance of your existing models. Track service health, accuracy and data drift over time. Build your own challenger models or use our industry-leading automated machine learning product to build and test them for you. This process of constant evaluation enables you to avoid surprise performance regressions in a dynamic and highly volatile environment.

Built-in Data Science Expertise - Automated best practices to pinpoint problematic and drifting features. Monitor accuracy and decay using expert metrics and interactive visualizations available right out of the box. Subscribe to alerts to quickly respond to performance problems.

Continuous Model Competitions- Replay predictions against shadow challenger models. These can be built by you or by DataRobot, to compare model drift, accuracy, and reliability over time. Swap in a newer and improved model, with no service interruption, while keeping other versions as fallback and comparison models.

Production Diagnostics - Monitor service health over time to meet your latency, throughput, and reliability SLAs.



EMBEDDED GOVERNANCE, HUMILITY, AND FAIRNESS

MLOps establishes a framework in which you can maintain discipline and control over your AI projects. The Humble AI feature inspires trust in every single prediction. MLOps also enables you to comply with government regulations and reduces your risk by providing secure and governed access to all your production models with tightly controlled approval workflows for the deployment process and the implementation of any proposed changes.

Humble and Trusted AI - Promote the ethical use of your AI by comparing model predictions and accuracy across different segments of the data. Define humility rules to provide guardrails that ensure predictions are within the normal range of expectations and are reasonable. Even in the face of unexpected or adversarial inputs. Encourage even more trust in your AI by enriching models with human-friendly explanations and intervals.

Model Approval Workflows - Maintain thorough reviews of model updates with less tedious manual work using customizable review cycles and approval workflows. MLOps ensures only those who are authorized can update and publish new models while keeping everyone else in the loop.

ML Audit Trail and Logging - For regulatory compliance purposes, MLOps preserves a full history of prediction activity and any model updates so that you always know what model was created, used, and updated, when by whom.

The real value of machine learning and AI-powered systems to the organization is measured by improvement to customer experiences, to enhanced operational efficiency, overall risk reduction, and to assistance to human actions and decision-making. With machine learning playing such a critical role, AI-based applications must be reliable and resilient. Without proper model monitoring, management and governance, your organization risks losing revenues, and the trust of your customers, users, and executives.

Powering Mission Critical AI and Machine Learning Innovation at Enterprises Worldwide.



DataRobot knows that trust in your AI systems doesn't stop at model creation, and must extend through models running in production with the ability to adapt to constantly changing conditions. DataRobot's MLOps centralized hub for production machine learning approach, allows you to foster collaboration between data science and IT teams while maintaining control over your production machine learning to scale up your AI adoption with confidence.

Contact Us

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