

MLOps Foundations

Operationalize machine learning across your entire business.

Companies are realizing the value of using machine learning models to drive better outcomes for their businesses. Harnessing the predictive power of their data with machine learning models to remain competitive is becoming more critical to business operations, yet 60% of machine learning models never make it to production. Successfully operationalizing AI and machine learning across the organization delivers a secure, trackable, testable and repeatable way to create, train, deploy and update machine learning models across different environments. This solution must combine data preprocessing, model training, deployment and model monitoring across multiple environments with strong governance and security controls to provide a foundation for successful model lifecycle management.

With MLOps Foundations, Rackspace Technology enables companies to accelerate operationalizing models in production to achieve the benefits of an automated machine learning lifecycle management by reducing the typical 25+ step lifecycle down 10 steps for a significantly faster delivery time.

Without MLOps Foundations	With MLOps Foundations
<ul style="list-style-type: none">• The entire lifecycle could take months with 25+ steps between local dev > dev enc > Q/A > production• Manual hand offs between various data teams• Cycles of troubleshooting between data scientist local development and the data engineer development environment	<ul style="list-style-type: none">• Lifecycle reduced to just weeks with 10+ steps• Automated deployment between environments with controlled access to data teams needed for specific steps• One source of truth for experiment tracking, project packaging for easy source control and reproducibility

Experts Dedicated to Your Success

Rackspace Technology leverages the innovative capabilities of the cloud to help customers build new revenue streams, increase efficiency and deliver incredible experiences. With proven accelerators and AWS native tools to fast track the automation of your model development lifecycle, Rackspace Technology leverages a wide range of expertise across data migration, data engineering, data science, machine learning and operations to help turn your data into a tool for innovation.

Key Benefits

The Model Factory Framework is built using AWS services and open source tools that enable rapid development, training, scoring and deployment of models. The MLOps Foundations Solution can be tailored to specific workflows and business needs through customization around the model factory framework.

Tools for diagnostics, performance monitoring and addressing model drift: The Model Factory Framework provides tools for data science teams to address model drift, model performance for debugging and troubleshooting, and pipeline management.

Model explainability for governance and regulatory compliance: Track models, data and parameters in the cases where you need to show auditors that the proper protocols were employed.

Platform for collaboration: By combining DevOps tools and processes with machine learning workflows, teams can work closely together to develop complex models and pipelines and manage model progression through the different stages of development to production, with respective versions, annotations and history.

Accelerated ROI: Expedite operationalizing models in production and realize the benefits of an automated cloud-based machine learning lifecycle management solution built on a pay-for-what-you-use delivery model, complete with tools and services to help you monitor and optimize compute resources.

The Rackspace Technology™ Edge

Rackspace Technology is your trusted partner across cloud, applications, security, data and infrastructure.

- A leader in the 2020 Gartner Magic Quadrant for Public Cloud Infrastructure Professional and Managed Services, Worldwide
- 2,500+ cloud professionals
- 1,600 AWS technical certifications worldwide
- Hosting provider for more than half of the Fortune 100
- 20+ years of hosting experience
- Customers in 120+ countries

Fanatical Experience™

Experts on your side, doing what it takes to get the job done right. From first consultation to daily operations, Rackspace Technology combines the power of always-on service with best-in-class tools and automation to deliver technology when and how you need it.

Standardized model development environment for your data science teams: MLOps Foundations allows data science and engineering teams to develop models that support any machine learning framework.

Automated model deployment across dev, Q/A and production environments: The Model Factory Framework leverages hyperscale cloud automation to quickly take models from development to deployment, while addressing the production-ready requirements of high availability, scalability, reliability and cost management.

Reproducibility of models and predictions: Track model versions and hyperparameters when deploying to different environments, ensuring model performance in development matches model performance in production.

Key Features

MLOps Foundations is delivered through a custom engagement. Rackspace Technology will work with you to determine your infrastructure needs and tailor your solution to meet your model development, operations and compliance requirements.

Discovery Session: Rackspace Technology will examine your tooling, machine learning models and cloud landscape to identify areas for improvement and develop a solution design.

Design Decisions: Based upon the discovery session, a detailed design for the Model Factory Framework is created utilizing the tooling that your team is familiar with to decrease the maintenance efforts.

Implementation of the Model Factory Framework: Once a design has been finalized, the team will begin implementing the solution. The Model Factory Framework provides a CI/CD pipeline for your models with a UI to make it easy to deploy and track machine learning models.

Integrate machine learning models: Once the solution has been deployed, Rackspace Technology will help you integrate your models and get them into production.

Comprehensive AWS Capabilities

- Premier Consulting Partner
- Audited Managed Service Provider
- Solution Provider
- AWS Reseller
- Well Architected
- Public Sector Partner
- Immersion Day Partner
- ISV Workload Migration
- Data & Analytics Competency
- AI/Machine Learning Competency
- DevOps Competency
- Education Competency
- Financial Services Competency
- Healthcare Competency
- Industrial Software Competency
- IoT Competency
- Microsoft Workloads Competency
- Migration Competency
- Oracle Competency
- Storage Competency
- Amazon EC2 for Microsoft Windows Server
- AWS Database Migration Service
- Amazon RDS
- Amazon Aurora
- Amazon CloudFront
- AWS CloudFormation

Rackspace Model Factory Framework Features	Machine Learning Model Integration and Pipeline Development
<ul style="list-style-type: none"> • CI/CD integration with automation and orchestration tools • Experiment tracking • Project packaging for easy source control and reproducibility • Register, package, train and deploy models from anywhere • Support for major ML frameworks such as TensorFlow, SCikit-Learn, Spark machine learning, spaCy, PyTorch, etc. • Real-time inference endpoints • Scalable scoring • Model artifact storage • Tracking user interface 	<ul style="list-style-type: none"> • Integration of reproducible machine learning pipelines • Integration of reusable software environments for training and deploying models • Automated triggering • End-to-end QA test and performance checks • Guidance to team collaboration and best practices

Take the Next Step

Let's talk about how MLOps expertise from Rackspace Technology helps you achieve your goals.

Learn more: www.rackspace.com

Call: 1-800-961-2888