MLOps for financial services

Bringing intelligent applications to market faster

Financial services firms have been analyzing data for decades to help mitigate risk and maximize revenue. But as more business is conducted digitally, firms are looking to use machine learning operations (MLOps) to harness the value from data as fast as the business context changes. Artificial intelligence and machine learning (AI/ML) can be transformative, allowing financial firms to automate manual tasks, streamline workloads, and gain deep insight for better business outcomes. However, firms are impeded by bottlenecks to productivity, which is especially concerning given the lack of talent to build models.

Organizations seeking to maximize insights from data should ask themselves critical questions to automate, scale, and simplify deployment and maintenance of intelligence applications.

1 Autonomy to automate

Teams often wait weeks for infrastructure to be made available. Even when infrastructure is provisioned, teams can be restricted by a lack of on-demand compute power needed for big data. With isolated and often manual processes delaying the deployment and integration of AI/ML algorithms into applications, consider taking AI/ML experiments out of sandbox environments and into production as intelligent applications with automation.

- Can your teams readily curate the data (stores, streams, and from APIs) with self-service access to tools they need?
- Are your teams struggling with maintaining versions across a wide array of libraries or keeping up with expanding modeling frameworks?
- Can your teams access the tooling they need, confident that those tools will run at scale in both testing and deployment environments?
- Are you able to automate the integration of AI/ML models into applications across all environments that customers are digitally transacting?

Consider simplifying AI/ML activities to ease the burden felt by data engineers, data scientists, ML engineers, application developers, and IT operations staff so they can be responsive to current business needs. By providing self-service access to data and tooling in a consistent and containerized environment, development and deployment teams can share resources and provide insights, anywhere.

2 Confidently and economically scale

MLOps depends on tools and technologies that teams use to help automate and connect the various stages of the application life cycle. As an extension to DevOps, MLOps provides automation capabilities to improve how AI/ML applications are deployed and maintained. Consider how to improve your quality, reliability, collaboration, and refinement processes in production and at scale.

- Can you easily manage compute of both CPUs and GPUs to optimize for seamless scalability that meets high compute resource requirements?
- Do you have the automated tooling needed for common life-cycle management tasks like versioning, drift, and reproducibility of results?
- Can your teams easily integrate open source projects like Jupyter notebooks, TensorFlow, PyTorch, and Apache Spark, into a shared environment for collaborative development?
- Are you able to reduce costs with teams working in managed service and self-managed environments without having to learn new processes?

Explore building a more resilient, collaborative environment for AI/ML, one that scales more easily. Optimize all available processors across environments with reusable, containerized projects, supporting MLOps without having to adopt new operational tasks.

3 Simplify deployment and maintenance

MLOps accelerates the time to market of intelligent applications. Automated tooling provides visibility into processes across teams with centralized access controls, while giving those teams the freedom to use their preferred tooling. Consider how code and intelligent applications—when built on a hybrid cloud foundation—become more portable and reproducible across cloud and edge environments, all while enforcing compliance to company and regulatory policy.

- Are your deployment teams able to deliver AI/ML-based applications with consistent code checks, version control, traceability, and app security requirements independent of continuous integration and continuous delivery (CI/CD) pipelines of other teams?
- Can your teams deploy machine learning code to any application that runs anywhere with common organizational deployment standards being met?
- Do your teams easily share code and reproduce code with traceable version control?
- Are your teams able to quickly install certified software applications that extend their AI/ML applications—whether they use a managed service or a self-managed one?

Consider ways to improve model confidence and usability by streamlining reproducibility requirements, security, and monitoring with containerized DevOps tooling that automates life-cycle management for AI/ML powered intelligent applications.

Next steps and how Red Hat can help

Red Hat has helped financial services firms accelerate AI/ML projects with a security-focused, enterprise hybrid cloud platform. We offer tooling that promotes self-service for data scientists and developers, simplifying and automating MLOps processes. With options to self-manage or as a managed service, Red Hat's open source solutions help firms gain better control of their MLOps software stack and provide visibility into the underlying platform operations source code. With platforms like Red Hat® OpenShift®, the AI/ML life-cycle integration and deployment processes are simplified, and the code and resulting intelligent application are consistent and portable across the data center and hybrid cloud, multicloud, and edge environments.

Ready to optimize your MLOps journey? Book a complimentary discovery service with Red Hat today.

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