



ModelOp Center: Monitoring

Actionable monitoring for reliable decision making



ModelOp Center Monitoring automates AI model performance monitoring and orchestrates remediation actions, regardless of the type of model or where the model is running, resulting in reliable, compliant and scalable AI.

Business Challenge

Organizations continue to invest in AI, building models at an increasing rate. Multiple model development tools, platforms and frameworks have been introduced to help with the development and deployment of AI and ML models. But little attention has been given to ongoing monitoring of models once they are running in production environments and applications. In most organizations, data scientists are tasked with manually monitoring production models, periodically assessing their performance. When problems are found, they must then diagnose the cause and resolve the problem. As a result, performance issues may go undetected, or if found, manual methods for diagnosis and remediation may leave models offline or underperforming for extended periods, impacting the intended business and revenue contribution of a model.

ModelOp Solution

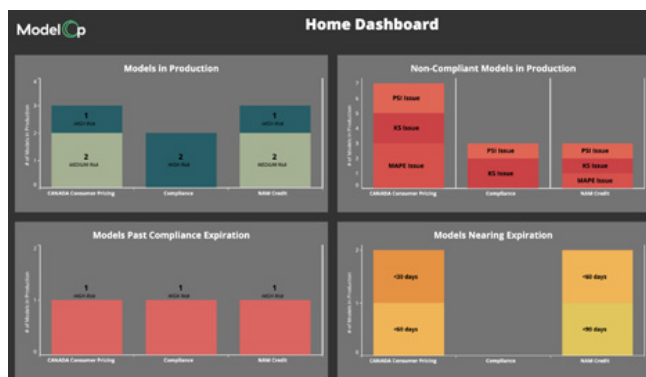
ModelOp Center's robust actionable monitoring automatically detects problems with model operations, quality, risk and process performance and orchestrates remediation. Alerts and notifications let you know when something goes wrong with model accuracy, availability or operational processes. Remediation steps are immediately executed using pre-defined processes, eliminating model degradation. In addition, the end-to-end model operational process, or model life cycle, is monitored to ensure business, risk and regulatory controls are adhered to and fully auditable. Regardless of type of model or where it is run, ModelOp Center's actionable monitoring prevents failures or slow-downs that affect model outcomes and impact downstream applications that deliver critical business services or direct revenue.

Key Features

- Actionable monitoring for any type of model, run anywhere
- Comprehensive operations, quality, risk and process monitors
- Orchestrated remediation
- Tracking for reproducibility and auditability
- Integration with DevOps tools, data pipelines, IT systems and MRM systems

Key Benefits

- Accelerate time to problem resolution
- Reduce business risk by enforcing policies and controls
- Uplift model revenue contribution by 10% or more
- Eliminate monitoring burden from data scientists
- Scale use of AI models



Visualize state and status of models in production

ModelOp Center Monitoring

ModelOp Center automatically monitors all models for operational, qualitative, risk and process performance, regardless of model type or where model is run. Automated, orchestrated remediation actions accelerate time to resolution. Integration with development tools, data pipelines, IT systems and risk management systems ensure reproducibility and auditability.

Operational Performance: Automatically monitor model operations to ensure that models are running at agreed upon service levels and delivering decisions at the rate expected. Operational performance monitors include:

- Model availability and SLA performance
- Data throughput and latency with inference execution
- Volume and frequency of input requests for the application
- Input data adherence to the defined schema for model
- Input data records for inferences are within established range

Risk Performance: Controlling risk and ensuring models are constantly operating within established business, risk and compliance ranges as well as delivering ethically fair results is a constant challenge. Prevent out of compliance issues with automated, continuous risk performance monitoring. Risk performance monitors include:

- Data drift of input data
- Concept drift of output
- Statistical effectiveness of model

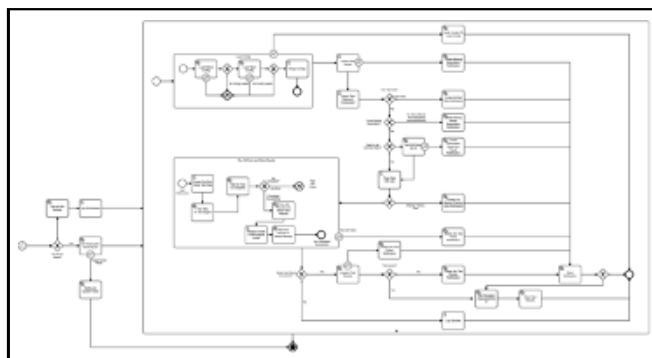
Quality Performance: Ensure that model decisioning and outcomes are within established model quality controls, eliminating the risk of unexpected and inaccurate decisions. Quality performance monitors include:

- Ethical fairness of model output
- Interpretability of model features weighting
- Population score index -- distribution of model inferences
- Characteristic stability -- distribution of an input feature

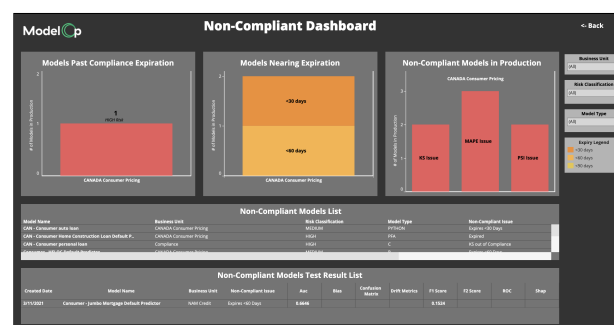
Process Performance: Continuous monitoring of the end-to-end model operations process ensures that all steps are properly executed and adhered to. Collect and retain data for each step in the model life cycle, resulting in reproducibility and auditability. Process performance monitors includes:

- Registration processes
- Operational processes
- Monitoring processes
- Governance processes

Remediation: Automatically orchestrate remediation actions to quickly resolve performance problems. With pre-defined remediation processes that are integrated with IT and model risk management systems, model retraining, retesting, champion/challenger testing and feature testing are initiated as needed. Prevent problems and bottlenecks with continuous collection and aggregation of model data and metrics. Integration with ServiceNow and other ITSM systems automate incident and change management providing automation and auditability of problem resolution.



Design and automate model monitoring workflows



Monitor for risk and compliance

ModelOp, the pioneer of ModelOps software, enables large enterprises to address the critical governance and scale challenges necessary to fully unlock the transformational value of enterprise AI and machine learning investments. Core to any AI orchestration platform, F1000 companies use ModelOp Center to govern, monitor and orchestrate models across the enterprise and deliver reliable, compliant and scalable AI initiatives.

Reach out to us to learn more: modelop.com/contact It's real. It's achievable.

ModelOp Products

The following U.S. patents apply to ModelOp products, including but not limited to ModelOp Center:
US Patent Numbers:
10,891,151; 10,860,365; 10,705,868;
10,599,460; 10,467,039