



Operate and automate your AI across its lifecycle

IBM® AI OpenScale is an open platform to accelerate adoption of trusted AI.

The solution enables you to:

- Explore the health of AI models and functions at runtime
- Automatically detect and counteract harmful bias to generate fair outcomes
- Enable the line-of-business user to understand, explain, and audit AI decision-making
- Measure value and correlate AI performance with business outcomes
- Continuously deploy customized, AI-generated neural networks anywhere to address specific business problems
- Integrate with a wide range of AI tools, frameworks, and environments, and deploy models on-premises or in the cloud
- Accelerate the integration of AI into existing business applications

Available now via IBM Cloud and IBM Cloud Private, AI OpenScale is the open platform for businesses to operationalize trusted AI and extend their deployments enterprise-wide

Harnessing AI to drive business value

Fully available later this year, on IBM Cloud and IBM Cloud Private, AI OpenScale allows businesses to operate and automate AI at scale - where it resides - with transparent, explainable outcomes, automatically freed from harmful bias.

Roadblocks on the AI journey

Businesses today are increasingly certain that AI will be a driving force in the evolution of their industries over the next few years. Many are already taking their first steps on this journey, whether by building AI-powered chatbots to augment their call centers, or by automating back-office tasks by using AI to process documents or recognize images.

Yet for every successful AI project, there are many that fail to reach widespread adoption in the business and achieve their expected outcomes. Even the most expert data science teams will typically only deploy a handful of models into production every year. This is partly because the mechanics of AI deployment can be complex, and there are still gaps in skills and tooling that can make it difficult for data science, IT operations, and business teams to work in lockstep. But beyond the operational challenges, there are also much more profound issues of trust and transparency that businesses need to address before they can truly turn AI into a business advantage.

Building trust

Knowledge workers must be able to trust AI and explain the decisions it helps make before they will incorporate it in their business processes. If AI is a black box that

simply takes in data and produces obscure, unexplainable outcomes, then there is no way for the business to judge whether these systems are producing fair, accurate outcomes, or have confidence in AI's ability to augment decision-making. Equally, the business will not be able to explain outcomes to customers, auditors, or compliance teams.

Today, many promising models never make it into production because businesses cannot afford to trust AI decisions they do not fully understand. A business exposes itself to significant risk if it delegates responsibilities to an AI system that does not fully align with its aims and policies. For example, severe financial or reputational damage could result if a model unfairly discriminates against a particular group of customers because its training data did not represent a large enough sample of that population, or if the model does not take into account the latest data.

Ensuring fairness

Almost any AI model, no matter how carefully designed, is likely to exhibit a certain amount of bias. A model is only as good as the data with which it is trained, and since training data sets can never be 100 percent representative of real-world data, there is always risk that a newly trained model may not perform well in production. Moreover, since most data domains are continuously evolving, model accuracy tends to drift over time.

The key is real-time visibility at runtime, where decisions are made. If you can monitor the accuracy, performance, and fairness of your AI models throughout their operational lifecycle and provide analytics to help line-of-business users understand the reasoning behind the results, then you can overcome one of the most significant roadblocks on the AI journey.

Making decisions explainable

In many industries, adherence to GDPR and other comprehensive regulations presents a significant barrier to AI adoption. Even if a company is satisfied its models are fair and trusts the results, regulators may demand a more rigorous lineage of AI platforms and components.

For this reason, it is critical to ensure AI's input to any decision is fully explainable and traceable by keeping a complete track of the lineage of all the models, data, inputs, and outputs of any AI-powered application. It should be possible to audit the lifecycle of every AI asset from initial design, to training and deployment, through to operation and retirement. For a given model, it should be possible to identify the team who built it and the data sets they used to train it, as well as the inputs it received in production and the outputs it produced.

Introducing IBM AI OpenScale

IBM AI OpenScale is an open platform designed to help organizations automate and operate AI at scale, with trust and transparency around AI processes. The solution makes it easier for data scientists, application developers, IT and AI operations teams, and business-process owners to collaborate in deploying, managing, monitoring, and updating AI assets in production. This empowers businesses to confidently integrate machine learning capabilities into their applications and scale seamlessly as the demand for AI grows

How it works

AI OpenScale includes a powerful operations console that makes it easy to understand, explore, and improve AI performance. These analytics capabilities can also be easily integrated with many common business reporting tools to provide insights to a wider audience. The solution augments the AI environment with instrumentation, logging, and monitoring services that provide deep insights, end-to-end auditability, and fine-grained control.

For example, AI OpenScale automatically logs every payload of data that is processed by the model, enabling complete traceability of all decisions and predictions and full data and model lineage. This logging data not only greatly improves auditability and compliance reporting, but it also supports powerful analytics. Users can query any business transaction and obtain an explanation of how the model arrived at its recommendation, in language that line-of-business users can easily understand.

AI OpenScale also runs a sophisticated set of diagnostic services to assess the accuracy of the model. State-of-the-art anomaly and bias detection capabilities,

developed by IBM Research, identify and automatically mitigate harmful biases in both the data and the model, without requiring retraining from the data science team. Bias checks can be performed both at build time and during runtime, to help ensure that any issues are caught as early as possible.

Finally, AI OpenScale features NeuNetS, which automates AI development by building customized neural networks in a fraction of the time it takes a data scientist to build networks manually. NeuNetS also recommends new, optimized models to the business, thereby reducing the complexity and skills required to build AI models.

An open platform for AI

While IBM AI OpenScale integrates seamlessly with IBM tools for building and running AI models, such as IBM Watson® Studio and IBM Watson Machine Learning, and IBM PowerAI, it has been designed as an open platform that will easily operate with model development environments from other vendors and open source tools, including Tensorflow, Keras, SparkML, Seldon, AWS SageMaker, AzureML and more. Regardless of your existing investments in model design, training, and evaluation tools, AI OpenScale offers value by closing the gaps between your data science team, IT team, and business process owners. Above all, it provides a unique set of monitoring and management tools that help you build trust and implement governance structures around your AI investments.

The platform enables organizations to keep their options open in terms of AI deployment, with a wide range of connectors that allow users to build and deploy their models anywhere – in the IBM Cloud™, in IBM Cloud Private, or on a variety of other cloud platforms

IBM AI OpenScale use case:

Expediting auto insurance claims processing

IBM AI OpenScale makes it possible for organizations to take their AI assets out of development and into the real world – helping to solve business problems and deliver value, while significantly mitigating risk. For example, while processing an auto insurance claim requires close inspection of the vehicle, it's expensive, time-consuming, and often unnecessary to send an

adjuster in person. While AI can help automate this process, there is a risk that the decisions the AI helps make won't be explainable.

With AI OpenScale, an insurer can deploy an automatically generated model that suggests whether to approve or deny claims based on historical data from claims documents and police reports. Once that AI model has been deployed to production, the claims adjuster can understand, trace, and explain how the decision was made.

AI you can rely on

IBM AI OpenScale provides the final piece of the puzzle to help organizations get AI projects out of development and put them into production - at scale. By providing full visibility and explainability, the solution helps to ensure fair outcomes, while giving business process owners confidence in AI's ability to augment decision-making. At the same time, the solution provides a robust framework to ensure AI maintains compliance with corporate policies and regulatory requirements.

IBM AI OpenScale also removes barriers to AI adoption by empowering users to deploy and manage models across deployments, at whatever scale the business requires. Low-code composition and visual tools help to abstract away low-level complexities and keep data scientists, application developers, and line-of-business users focused on delivering value to the business.

For more information

To learn more about IBM AI OpenScale
Contact your IBM representative
or IBM Business Partner
Visit www.ibm.com/cloud/ai-openscale

