PwC's Cloud Transformation Capabilities

Artificial Intelligence

AI in core business from pilot to production drives demand for reliable AWS solutions.

The fundamental challenges for companies are not based in the implementation of first AI-based prototypes or pilots, but in the establishment of automated processes that provide a secure and reliable solution in operations throughout the entire AI lifecycle. The concept of MLOps is one key element that aims to operationalize and productionalize end-to-end machine learning models by harmonizing model development and data operations with DevOps concepts. This enables fast development cycles combined with clear and orchestrated processes. A cloud native approach allows a direct company-wide deployment of MLOps practices and ensures that underlying data sources as well as information are spread across the organization. However, the demand for bringing trustworthiness in the center of the development and operations increases due to its application in critical sectors, the incoming regulations for AI and the user-centered design.

We're here to help you improve continual service for deployment for data and AI / ML Solutions.

PwC's service offerings to scale AI through MLOps

PwC's approach into MLOps consists of multiple tasks and best practices which can be bundled into five stages. These stages are Ideation, Discovery, Compliance, Delivery and Stewardship. Each stage is enriched by specific processes to cope with domain specific regulatory requirements, while explicit regulatory tasks like conformity assessments are performed in the dedicated compliance stage. All regulatory steps can be carried out as established in-pipeline processes or as pluggable add-ons on universal MLOps pipelines. PwC's experts can identify solutions to cope with regulatory requirements in all stages.

Ideation	Discovery	Compliance	Delivery	Stewardship
• Build a general understanding • Collecting requirements • Classify possible solutions into risk groups • Determine required regularities • Standard solution templates	• Model training • Model testing • Experiment tracking • Feature stores • Version control • Experiment sandbox	• Model validation • Conformity assessment • Model registration / model admission • Risk analysis • Trustworthy / Ethical AI	• Model launching • CD best practices • Endpoint deployment • A/B testing	• Retraining strategies • Business objective checks • Vigilance • Monitoring and logging • MLOps at Scale

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Benefits

MLOps help organizations to significantly lower the time and costs to develop production grade models while making a reliable risk estimation introduced by regulatory requirements possible. Overall, quality management and reusability of AI is made possible by sophisticated development cycles.

Significantly reduce the design time and deploy AI applications
From continuous service improvement and integration to model delivery and analytical products.

Harness the power of ML/AI to automate data quality remediation
Proactively build data quality remediation engines that use AI and ML to optimize the delivery of high trustworthy data.

Automate data lineage tracking
Data visibility and lineage tracking for all data assets in storage (on premise or cloud).

Cost savings through pipeline code reuse and collaboration
Optimize the data pipeline and API experience through code reuse and data code as an asset.

Comprehensive, highly-automated MLOps processes equipped with trustworthy measures are the key driver for bringing your AI solutions into sustainable operations!

Case Study: Health Insurance Company

Challenges:

- How to bring AI pilots on a prototype basis into operations?
- How to ensure the availability and longevity of AI solutions?
- How to consider domain-specific and AI-specific regulatory requirements?
- How to scale processes and pipelines for MLOps towards multiple use cases by reducing the time-to-market?

Solution:

PwC's AWS practice assisted the client with building reliable processes under consideration of the domain-specific requirements and regulations that leverages automation and drives efficiency without sacrificing quality or compliance. The solution was powered by Artificial Intelligence and a modern cloud-based technology.

Results:

- Blueprint which can be adapted to multiple use cases for the client
- Speeds up the process of time-to-decision, reducing the reliance on human intervention
- Reduces errors by automating the intensive manual processes without impacting compliance measures
- Timely recognition of alterations in quality metrics of the model followed by data and standardized reactions

Contact us for further information

Hendrik Reese
Partner, PwC Germany
hendrik.reese@pwc.com

Dr. Sebastian Becker
Manager, PwC Germany
sebastian.becker@pwc.com