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THE BENEFITS OF AZURE MACHINE LEARNING

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GoDgtl understands how cloud computing - and the benefits of flexibility, scalability, security, and agility enabled by **cloud computing** - can transform organizations.

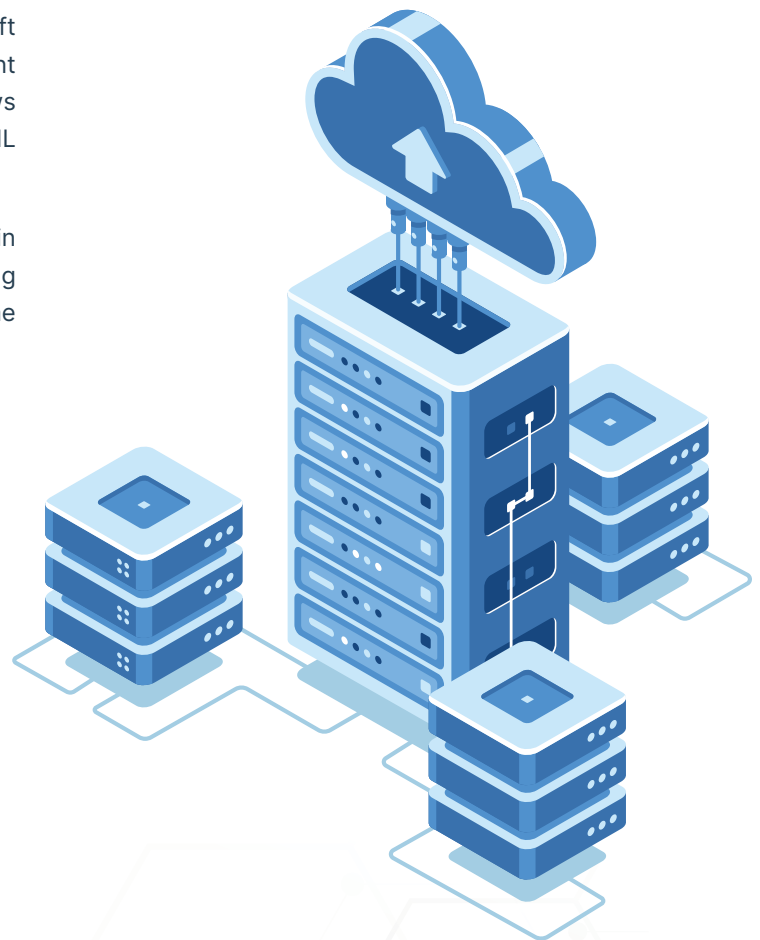


Introduction

Machine learning (ML) is a type of artificial intelligence (AI) that allows businesses to leverage data and make better, guided decisions without human intervention. With a rapid rise in the volume, variety, and velocity of data, machine learning offers a smarter and more accurate approach to analyzing complex data sets, instead of trial-and-error methods. From helping to improve operational efficiencies and driving down costs, to improving customer experiences, ML is increasingly becoming a competitive differentiator for many enterprises. However, the accuracy in predictions made through machines largely depends on the quality of data and the underlying ML model. Moreover, the infrastructure and the specialized skill sets required to integrate ML within different business processes can get costly.

SMB's and enterprises, however, can easily jump into machine learning and start reaping the benefits through Microsoft Azure ML that offers a cost-effective and robust environment to build ML applications. This cloud-based environment allows businesses to train, deploy, manage, and automate their ML models without needing to invest in costly IT infrastructure.

This whitepaper explores the concept of machine learning in detail and discusses the positive impact of this rapidly growing AI technology on businesses. The paper also sheds light on the benefits of using Azure Machine Learning.



What is Machine Learning

Microsoft defines Machine Learning as “the science of training machines to analyze and learn from data the way humans do.” If we take this definition a step further, Machine learning (ML) is the process of using mathematical models of data to help a computer learn without direct instruction. It is considered a subset of artificial intelligence (AI). Machine learning uses algorithms to identify patterns within data, and those patterns are then used to create a data model that can make predictions. With increased data and experience, machine learning results are more accurate—much like how humans improve with more practice.

The adaptability of machine learning makes it a great choice in scenarios where the data is always changing or when the nature of the request or task is always shifting. Coding a solution for these situations is effectively impossible.



The Business Impact of Machine Learning with Azure

A growing number of organizations are taking advantage of machine learning to increase efficiency, enhance customer experiences and drive innovation. With the increasing use of machine learning, customers might wish to consider a cost-benefit value analysis of all their infrastructure, operations, and processes across teams and organizations.

Azure Machine Learning is the enterprise-grade service to build and deploy ML models faster and accelerate the machine learning lifecycle. Thousands of customers, including many Fortune 100 companies, already realize the impact and benefits of Azure Machine Learning. To provide a detailed analysis of the potential return on investment (ROI) with Azure Machine Learning, Microsoft commissioned the Forrester Consulting Total Economic Impact™ (TEI) study to examine the cost savings and business benefits enabled by Azure Machine Learning.

Azure Machine Learning provides advanced machine learning operations (MLOps) capabilities for operationalizing the lifecycle. Forrester interviewed five customers that used Azure Machine Learning and surveyed 199 data science, machine learning, or AI decision-makers. For the purposes of this study, Forrester aggregated the results from these customers into a single composite organization. Forrester found that after investing in Azure Machine Learning, customers experienced many efficiencies in their ability to execute machine learning projects, drive greater revenue, and lower operating costs. They calculated the benefits of using it for a three-year period, and Forrester concluded that benefits scaled as the organization's adoption of Azure Machine Learning increased.

Some benefits of using Azure Machine Learning:

- Three-year projected ROI of 189% to 335%.
- Improved data scientist productivity by up to 25% and data engineering productivity by 40%.
- Up to 40% reduction in time to onboard new data scientists, resulting in reduced costs.
- Increased operational efficiency by streamlining model development, training, validation, deployment, and monitoring.
- Improved time-to-value of machine learning initiatives and model accuracy, resulting in increased revenue and cost savings.
- Cost savings from retiring legacy technology.



Why Machine Learning Matters

While AI and ML are often used interchangeably and, sometimes, ambiguously, they both serve slightly different purposes. ML is a pervasive and powerful sub-field of AI that enables machines to self-learn and imitate intelligent human behavior. Today, ML is the intelligence behind predictive texts, chatbots, Netflix show suggestions, predictive social media feeds, and more. It is also the technology that powers autonomous vehicles and enables medical diagnosis based on images.

A Deloitte survey found that 67% of organizations already used ML in 2020, and 30% are planning to begin using it in 2021. Successful adoption of ML can enable organizations to make sense of valuable business data, automate human-intensive business processes, increase productivity, and deliver business growth. And while most organizations are keen on adopting this transformative technology, they often find themselves struggling to begin. Some of the impediments organizations face include high set-up costs, the need for special coding skills, and expensive hardware.

Fortunately, Microsoft's Azure Machine Learning empowers organizations to overcome these challenges when deploying and using ML. It delivers comprehensive, simple, robust, and responsible services that enable partners to build impactful data-driven apps quickly and securely using built-in drag-and-drop configurations.



Benefits of using Azure Machine Learning

Apart from being a simple to deploy service, Azure ML possesses various exceptional features too. It allows data scientists to pull data from a range of different sources. The service also allows experts to build ML models using simple scripting and human-understandable coding practices. Here's a look at some of the discernable benefits of choosing Azure ML as your ML service.

Leverage ML as a Service

Microsoft offers Azure ML as a pay-as-you-go service. Azure ML services enable businesses to save on costs and the hassles that go into purchasing and implementing big hardware or complex software. With this flexible pricing model, organizations can purchase only the services they need and start building ML apps immediately.

Benefit from MLOps

Azure ML delivers MLOps or DevOps for machine learning, which helps organizations build, test, and deploy ML innovations rapidly. With Azure ML services, organizations can streamline their ML lifecycle – from developing models to the deployment and management of ML apps. Additionally, users can leverage Azure DevOps or GitHub Actions to schedule, manage and automate their machine learning pipelines and perform advanced data-drift analysis to improve a model's performance.

Accelerate ML with Best-of-Breed Algorithms

Azure ML provides organizations access to valuable algorithms developed by Microsoft Research. Such algorithms are based on regression, clustering, and predictive scenarios, and can be configured simply by drag-and-drop configuration. Azure ML also delivers algorithms such as logistic regression and decision trees, which enable users to devise real-time predictions or forecasts. Such algorithms ensure that they can build apps without the in-depth knowledge of data science or expertise in algorithms. Moreover, there is no set data limit to import data from Azure storage. It reduces costs and enables developers to fine-tune the data easily.

Support Remote Working with Cloud-based Services

In this era of remote and hybrid working, organizations must choose technologies that deliver anytime, anywhere access from any device to access business information. The adoption of Azure ML services can help organizations simplify remote working, promote flexible working arrangements and enable employees to access business data and reports remotely. Solutions created with Azure ML can deliver an interactive view of essential business data to stakeholders, on any device and irrespective of location, through captivating data visualizations.

Compliant & Secure ML Apps

According to a Deloitte survey, 62% of AI and ML adopters see cybersecurity risks as a major or extreme concern. Similar to software apps, ML apps need to be secure as well. If an ML model is designed to analyze sensitive information, malicious hackers could attack to access this information. Azure ML allows organizations to build secure ML apps with custom machine learning roles, role-based access, virtual networks, and private links. Organizations can also manage governance efficiently with policies, quotas, audit trails, and cost management. The service streamlines compliance for organizations across industries with its comprehensive portfolio consisting of 60 certifications.

Catalyze Business Growth

Azure ML equips organizations with services to rapidly create intelligent and data-driven apps. It offers businesses a great opportunity to make smarter, more precise, and timely decisions. With Azure ML, organizations can establish a data-driven culture wherein employees don't have to work on guesses or intuition. It enables the employees to dig deeper into business or process data and uncover key insights to improve business decision-making and propel business growth.

Azure Machine Learning removes various roadblocks and makes machine learning simple with its plethora of friendly and robust features. The best part is that organizations can reap the benefits of ML without requiring in-house expertise.

How GoDgtl Collaborates with Microsoft Azure



Choosing the right machine learning solution is an important step in your digital transformation. GoDgtl brings a team of experienced cloud experts who work directly with Microsoft to bring value and real solutions for your cloud projects. With direct access to Azure resources and in-house cloud consulting talent, GoDgtl is ready to guide you through your cloud journey regardless of where you are on that path. Whether it's more knowledge-based information on cloud topics such as security, or governance and compliance, or basic cloud migration aspects, or even if a simple assessment is needed, GoDgtl can provide a roadmap for your path to project completion and success.



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