AI and Machine Learning in Your Organization

Get started and reap the benefits

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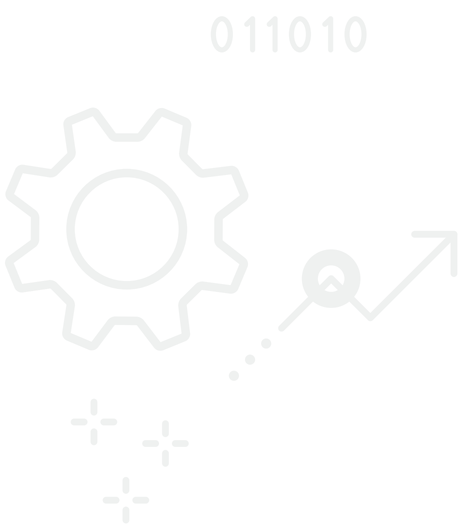


Get Answers From Your Data

In Brief

Digital transformation has led to complex environments that continuously generate new data.

Data is the fuel for your machine learning-powered initiatives.

Having mountains of data points isn’t enough.

Ensure you’re getting the insights you need for the most valuable business outcomes.

Machine learning (ML) is going to play a critical role in your ability to get answers from your data.

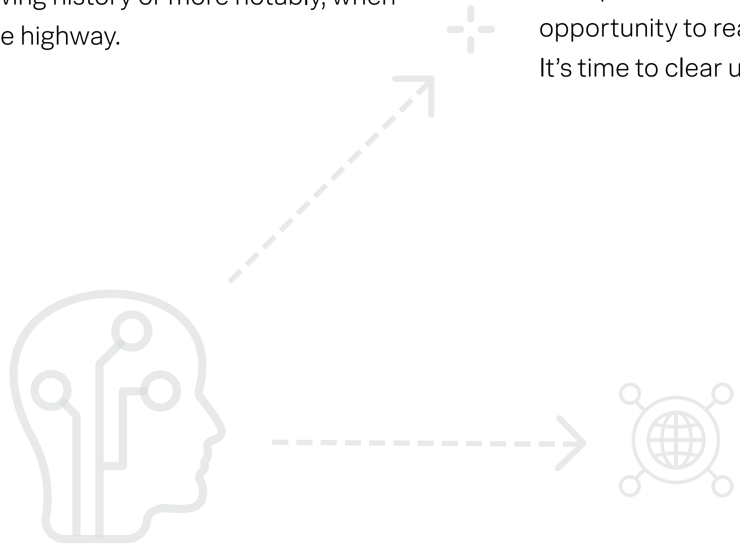
Use ML-powered monitoring and investigation to get ahead of the curve and reduce incidents and downtime. Identify and replace resource-intensive tasks by shifting to a proactive approach.

Don’t miss out on possible business insights for lack of the right solutions.

You can improve detection and response time through smart, automated solutions, allowing you to catch costly problems before they affect your bottom line.

Behind the Buzz of AI and ML

In its simplest form, artificial intelligence (AI) can be defined as machines executing tasks in a near-human manner based on smart algorithms. It's the computational ability to learn and take action without explicitly being programmed to do so. Through machine learning (ML), a subset of AI, machines and software can now seemingly mimic the cognitive functions of humans, often through training on rich datasets and adapting their response as new data points are introduced. This is possible through the application of predictive modeling that is applied to large datasets, building models for making future decisions based on new data points. You might experience this when Google Maps knows you want to go home at the end of the day, when Netflix recommends the next movie you should watch based on your viewing history or more notably, when you see a Tesla driving itself down the highway.



In short, the more information machines process, the more they learn. It's not quite human thought, but it's more than fancy automation.

Fortunately (or not), there aren't sentient robots yet, but the machine learning out there is already changing the way we work, play and communicate. As more and more data is generated, organizations recognize the value in tapping into their troves of data to make data-driven decisions. However, as data volumes increase, humans will struggle to keep up. Subsequently, it's becoming critical for organizations to leverage ML to harness their data and answer the questions that elevate them above the competition.

All aspects of AI are generating a great deal of industry buzz, but the opportunity to reap the benefits of ML continues to elude organizations. It's time to clear up the confusion, so you can harness the power of ML.

Data: The Fuel for AI and ML

New devices and the troves of data they generate can provide opportunities for greater efficiency, security, customer satisfaction and even organizational optimization when used correctly.

A Data-Centric Approach

Data is at the heart of what makes AI and machine learning work. To predict future outcomes, detect anomalies and cluster important events while filtering out noise, machine learning trains on historical and real-time data to detect patterns. However, this is often where organizations get stuck. They fail to realize the value of AI, as they're deterred by the time and manual effort spent refining large volumes of data. This includes having to move, aggregate and correlate data from disparate tools and systems, leading to the loss of precious time, resources and opportunities.

But it's not a step that can be skipped, as leveraging dirty or unrefined data for AI and machine learning leads to flawed outcomes. Conversely, effective data prep can provide powerful fuel for AI and machine learning, which can deliver critical business insights, including identifying outlier events, ways to improve customer experience and more.

To do this effectively, organizations require a solution that prepares data for analysis and simultaneously applies machine learning to said data. With this type of approach, the more data you have, the better. Effective AI and machine learning means not being bogged down by data, but instead being elevated by it. More data and more complexity create a greater context from which to calibrate and train your models, leading to richer insights.

The result is an environment that saves analysts precious time and resources while maximizing the output: machine learning-driven insights that inform how to predict and respond to business events in real time.

So what does this look like? Let's take a look at how AI and ML can make an impact on IT and security.

An IT Operations Perspective

The IT world is often home to paradox. The same business units supporting the latest and greatest technology can often be lacking in resources. End users get to experience a refined product or platform, while those who make it possible may deal with legacy solutions, thousands of alerts and poor visibility into an environment that only continues to grow in complexity.

But this is finally beginning to change. Software systems are combining big data with AI and machine learning functionality to improve and replace a broad range of IT operations' processes and tasks, including observability, event correlation and analysis, IT service management and automation. As a result, IT teams are better equipped to support their organizations, and the business as a whole can see savings in time and money.

Applying ML to IT operations, also known as Artificial Intelligence for IT Operations or AIOps, makes it easier than ever for IT teams to use insights from data to identity and resolve issues, execute tasks and allocate resources. Organizations can get answers for past, present and future patterns of IT systems and service performance. More specifically, organizations can quickly find and solve problems with predictive analytics coupled with automated incident response and resolution. AIOps enables teams to:

- **Avoid costly downtime and improve customer satisfaction**
- **Dissolve IT silos and disjointed responses**
- **Eliminate tedious and manual tasks**
- **Improve collaboration with your business peers**

In short, streamlining current monitoring and management workflows by leveraging the power of data and ML gives IT professionals the opportunity to be proactive in their roles.

A Security Perspective

The call for machine learning in security is not entirely new, but is rapidly becoming mainstream within all security environments. The benefits of the transition speak for themselves. AI and ML can help organizations better analyze and respond to security incidents, prepare for threats and minimize overall risk — all while reducing costs and maximizing limited resources.

Machine learning in particular has taken great strides in security, becoming the perfect fit for use cases like insider threat prevention and advanced threat detection, which require a more nuanced monitoring and response system. Advanced attacks involving lateral movement within a network, compromised privileged accounts and unintentional access to sensitive information can all be addressed by automated, machine learning-powered anomaly detection. Why?

Organizations often need advanced security tools when dealing with sophisticated attacks — tools and technology that collect, filter, integrate and link diverse types of security events so organizations gain a more comprehensive view of their security posture without drowning in alerts.

Machine learning can address these needs with a single "source of truth" for security insights. Analysts and SOC teams can leverage data — including log and event data from applications, endpoints and network devices — and build and train models to identify possible security events with the help of smart technology. They can perform rapid investigations, find meaningful insights, determine the root cause of an incident, draw on historical trends and share insights without being bogged down by thousands of alerts and false alarms.

Put simply, organizations can improve detection speed, analyze impact and respond quickly to any security incident. AI and ML help organizations minimize the negative impact of threats by allowing them to more actively manage their security posture — from continuous monitoring to deep forensic analysis and automated response.

The More Complex, the Better

While it’s not in our immediate future for AI capabilities to perfectly match human skills and capacity, machine learning can still go a long way to help organizations make better, faster decisions using the mountains of data constantly being generated.

Financial services organizations can apply machine learning to identify and protect themselves and their customers against fraud. Healthcare and biotech organizations can apply ML to drug discovery and manufacturing, clinical trial research, epidemic outbreak predictions and more, thanks to the wealth of data generated across processes and platforms. Manufacturing companies can eliminate business-impacting failures with predictive maintenance and monitoring. Retail businesses will provide better customer service with targeted recommendations based on a formula of factors like demographics and purchase history. The list of possible benefits goes on.

We’ve only just begun. The future of AI and machine learning is bright. We’re already realizing end-to-end ML workflows instead of piecemeal models patched together to perform a single function. Streaming ML is being used to train models in near real time without having to process data in batches and pre-trained, open-source models are readily available for data science teams to leverage for a variety of use cases.

Are you ready to dive into the future with AI and machine learning?

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