Make machine learning a reality across your modern business

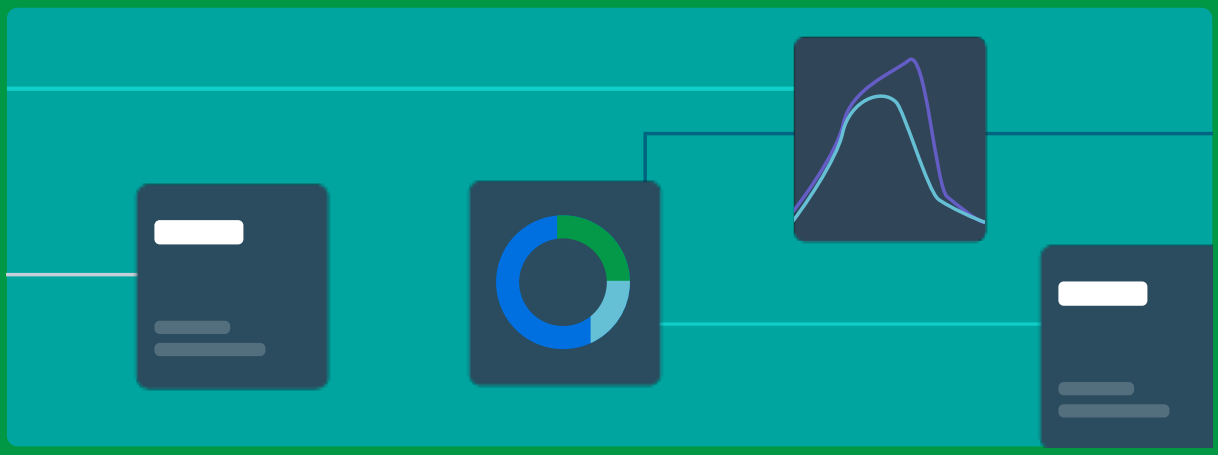
AutoML

Predictive analytics change the game

The modern business has long been adept at extracting knowledge from the data at its disposal. However, as market, economic, and regulatory dynamics continue to evolve quickly, businesses can no longer solely rely on retrospective analysis — they need to look forward. As a result, data and analytics leaders are using machine learning and predictive analytics to stay ahead and boost competitive advantage.

Machine Learning

The science of programming computers to learn from data, also known as ML. ML enables a computer to construct models based on the patterns it finds in historical data, and then use those models to predict future outcomes. This allows businesses to gain more concrete, powerful insights about what might happen and why, enable taking the best possible action in the present.



Automated machine learning in action

Machine learning has historically been a complex and manual discipline, confined to specialist data scientists. However its potential value is far too wide-reaching to be limited to such a small percentage of use cases. Increasingly, the process of machine learning is being automated — allowing analysts and analytics teams from all parts of the business to generate predictive analytics and drive better outcomes in a wide variety of highly impactful, 'everyday' use cases.

The increased access to machine learning afforded by AutoML (Automated Machine Learning) makes its applications practically infinite, spanning all industries and business functions. Any organization that collects and uses data can use machine learning. And while high-complexity applications still require significant investment in data science resources, many others can now be addressed in areas such as customer churn, employee retention, and sales forecasting.

Example

AutoML finds impact by extracting value from data in the healthcare sector.

Automated detection algorithms can help identify anomalies in medical scans. When presented with a new scan, automated analytics can review thousands of comparative images in seconds, highlight any abnormalities to a pathologist, and point to areas that need attention. This greatly reduces practitioner workloads and enables consistent diagnoses — ultimately improving patient outcomes. Siemens Healthineers is one such healthcare organization making the most of machine learning, using it to gain actionable insights from patient data much faster and uncover trends to inspire action that benefits patients.

Learn more ›

The Challenges

Common roadblocks to machine learning adoption

Although it may be tempting to implement first and ask questions later, this approach is often flawed. If you are a leader who has a realistic view of the potential of machine learning and a clear understanding of where it could add value across your business, you will be in the best position to take advantage.

With a balanced perspective in mind, it's important to understand some of the possible challenges that your organization will face on the machine learning journey.

Possible Challenges

Siloed data

Disconnected data weakens attempts to use automated machine learning and build useful models because analysts and data scientists may be unaware of what data exists or how to access it. It also increases the likelihood of poor-quality or incomplete data being used for machine learning projects, which reduces the reliability of the resulting predictions and amplifies risk.

Unclear ownership

Who's in charge of data and analytics at your company and who determines the success of machine learning initiatives? Are they under the purview of a particular department, central IT, or data science? As with any business objective, ownership and accountability play an important role in goal achievement.

Undefined use cases

It's not uncommon for an organization to invest in an automated machine learning tool without first identifying specific use cases to address, or even determining whether machine learning is the right tool for the job. By properly identifying and prioritizing use cases, you can ensure high-value results while preventing teams from losing productivity.

Inappropriate translation of questions

A critical factor for success in automated machine learning projects is to ensure your team asks the correct business question. This requires some degree of data literacy around the data science process, but you don't have to be a professional — it's easy to educate analytics users who are competent with data.

AutoML Tips

Making machine learning a success

Successful automated machine learning requires the right people with the right tools and strategies to add value while managing risk. Make sure you consider the following when executing your machine learning strategy.

Consider the Following

Secure executive support

Securing senior-level sponsorship and buy-in from departmental leadership is vital before bringing in a proposed machine learning solution. So is clearly communicating goals and expectations.

Set clear goals

Machine learning can only help solve defined problems and therefore needs to be linked to clear goals and ROI. These goals will form the foundation of your holistic vision, helping your people prioritize and focus on specific use cases.

Start small and scale

Identify a specific part of the business you want to start with and then create correlating projects to tackle. Starting with smaller projects is an opportunity to work out the kinks and offers a more gradual transition into a full-scale, organizational adoption.

Define a strategy

Without a well-thought-out strategy as a starting point, machine learning can provide some value, but its long-term ability to propel your organization forward will be limited to isolated use cases. To fully benefit from automated machine learning, put a strategy in place prior to investment which involves defining how AutoML will exist to complement data science initiatives across different departments and teams.

Ensure talent collaborates

While professional data scientists bring substantial value and expertise, they typically don't have a strong understanding of business needs and objectives. Conversely, analytics users and teams are focused on the business but may not fully understand the data science process. It should be a two-way street: Data scientists should offer technical consultancy and oversight to analytics teams using AutoML, while learning from the business to understand goals and objectives.

The Benefits

Turbocharge your business with machine learning

Beyond the primary ROI driven by cross-industry and industry-specific use cases for machine learning, there are many other benefits that you can enjoy when investing in AutoML.

Consider the Following

Enhancing analytics teams

Offering additional responsibilities and training to your analytics community makes them more valuable to your organization and results in higher job satisfaction.

Scaling data scientists

Employing in-house data scientists is a large investment that is typically focused on solving complex business challenges that require extensive statistics or applied machine learning. With AutoML, your analytics users can act as an extension of data science, under their oversight and guidance.

Catching major issues sooner

Preparing to implement automated machine learning typically involves data preparation. This process is extremely helpful in identifying missing or incomplete datasets as well as revealing gaps in data collection processes. Identifying these issues early is valuable for all data-driven initiatives.

Automated machine learning can be a powerful business capability, boosting value and delivering a competitive advantage across the organization. With a balanced approach to adoption, you can implement AutoML strategically for optimal results. No matter your industry, automated machine learning can help you jumpstart action to improve every part of your business — today and in the future.

Learn more and request a demo at www.qlik.com/autoML

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