Reducing Complexity and Preparing for Success

*Successful AI implementations start with laying the right foundation. **Timur Nersesov**, senior manager of professional services strategy at Cloudera, discusses key tactics to extract maximum value from AI and ML initiatives.*

How is the use of AI and ML evolving in state and local government?

State and local governments are just waking up to the possibilities of AI/ML. Use cases are emerging in areas like benefits administration, where states in particular have a ton of data, and in infrastructure management, where cities are using it to manage grids, networks and even traffic systems. Although many small pockets of creative work exist, there isn't yet a widespread rush to develop in the AI/ML area. Interestingly, some government organizations are in the midst of modernizing with enterprise and cloud systems, and their vendors are already building solutions with AI/ML capabilities in mind. So, in essence, a lot of organizations are building the infrastructure needed for AI/ML, even if that's not their main pursuit.

As organizations become more data-driven and automated, what hinders their ability to put data to work?

It's mainly the complexity of managing the data life cycle. Data consistency, cleanliness, formats, pipelines, storage, access and more have to be managed before you can use data to drive insights. That becomes a framing problem because when people get excited about AI, they're looking at the end result, which is the algorithms, dashboards, analytics and reporting. What gets lost is that all those capabilities are the output of an infrastructure. In reality, most of the technical debt around creating something like an effective ML application is the data infrastructure, not the data science.

How can an enterprise data cloud platform help organizations extract the full potential of AI, ML and RPA?

It comes down to efficiency. An enterprise platform typically uses a common standard that integrates data sources and manages data flow across the entire organization. That level of uniformity and simplicity is fundamental to efficiency. By creating a common standard, for example, it eliminates the complexity of managing multiple IT standards across the organization. The cloud also creates efficiency as it relates to storage and compute management. By outsourcing those functions, the organization taps into the economies of scale the cloud vendor can offer.

What tools and tactics help jump-start AI and ML projects?

The primary tactic is to take an enterprise view of the data pipeline. The data pipeline is where you will spend most of your energy and money in getting AI/ML ready, and it will determine the success of your data science program. This is where using an enterprise platform to manage the data pipeline comes in. It will simplify your data architecture, storage and management, and is much more efficient than having to manage multiple point solutions across the data life cycle. Another important consideration is the composition of the data science teams. Data science is a broad, multidisciplinary activity, so it's important to construct teams with breadth in mind.

How should organizations address security and governance in data-driven, automated use cases?

Zero trust security is becoming a common expectation for managing access. The basic concept is that the network should not assume any user is trustworthy — regardless of whether they're outside the network or already in. Organizations using a zero trust approach implement access controls inside and outside the network. Another important tactic is to minimize the number of handoffs. In other words, simplify the network architecture. Nodes — and connections between those nodes — create complexity, and complexity leads to management challenges and greater risk.

How can organizations prepare for the cultural changes that come with these advanced technologies?

With AI, ML and process automation, organizations free up their human capital to do more sophisticated, creative and customer-facing work. However, many organizations miss this opportunity because they see the efficiency gain from these tools only as a way to replace human labor — and reduce cost — rather than a way to repurpose their talent. Any organization that effectively implements an AI, ML or RPA solution will have to deal sooner or later with the fact that it has made some labor redundant, and this will impact their culture. They need to consider how to team human labor with capabilities they've gained from automation. Once AI/ML is effectively introduced, it will change how the organization is run, which must be carefully considered by anyone who implements AI/ML.

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