Addressing the Government's Growing Urgency to Hire and Retain Talent

Applying automated, easy-to-use machine learning to human capital management tasks and processes.

We often think of decision-making in the field of human capital management as being instinct-driven. From candidate selection to interviewing, training and development to retention strategies – choices are made based on a "gut" feeling. But that line of logic is changing rapidly.

With the rise of big data and predictive analytics, decisions about human capital management are evolving from being instinct-driven to data-driven, presenting an opportunity for agencies to take advantage of machine learning and artificial intelligence (AI) to reshape how they hire, manage, engage with, and retain their workforce.

THE CHALLENGES OF MACHINE LEARNING IN GOVERNMENT

The federal government has amassed an incredible wealth of information about its workforce but capturing and making use of that data in a way that will result in better hiring decisions and a more engaged and efficient workforce for the agency or department has been a major problem.

Data scientists are also rare. Once they have the data and a plan to use it, agencies must compete for and retain expensive data science talent. Furthermore, many agencies find traditional workforce analytics methods are less than ideal – they can be cost-prohibitive, hard to provision, or projects take too long. Even with successful implementations, Gartner research finds that more than half of all data analytics projects aren't completed within budget or on time, or they fail to deliver expected results[1].

AUTOMATION IS THE SOLUTION

In manufacturing, automation increases the strength, productivity, and quality of output from factory workers. The same principle holds for machine learning in federal human capital management. Automated machine learning (AML) helps agencies overcome the challenges that hold them back from successful data science technology implementation and successful insights.

Automation delivers the power of machine learning to the domain experts who need it – HR managers, program managers, and federal learning and development leaders – without the need to learn a programming language. Built-in expertise makes AML tools, like DataRobot, simple to use, while inherent guardrails and best practices make it safe to engage more people in projects with the assurance that users can't miss critical steps.

[1] Government Technology, May 2016. 4 Reasons Data Analytics Endeavors Don't Succeed.

AML can be applied to any stage of the recruitment process: requirement posting, resumé search and review, interviewing, making offers, onboarding, retention, learning and development — even though some are seemingly impervious to automation.

By performing modeling tasks that used to be full of tedious, repetitive, complicated work, automation drastically decreases the time-to-value of machine learning initiatives. This allows anyone involved in the task of human capital management to use these technologies without having to pick up an extensive new skill set.

AUTOMATED MACHINE LEARNING APPLIED TO HUMAN CAPITAL USE CASES

Using the power of AML and predictive models, defense and civilian agencies can improve recruiting, increase candidate quality, reduce staff attrition, and improve the quality and effectiveness of training programs. Consider the following use cases.

1. FEDERAL RECRUITMENT MADE EASY

The federal government has a recruitment problem. Shrinking recruit pools, low unemployment rates, and lengthy hiring and vetting processes are all limiting factors that inhibit agencies from achieving their hiring goals.

These hurdles aren't going away, but today's highly manual and time-intensive recruitment process can be optimized, and the recruiter's job made much easier.

Traditional thinking reasoned that finding the right candidates requires a certain amount of emotional intelligence and a personal touch. But data science is changing that. Parts of the HR workflow, like the tedious process of sifting through resumés, federal job boards, and social media, is just an analog form of data analysis and, among many other pieces of the HR puzzle, is ripe for automating with machine learning.

For example, when seeking to fill cybersecurity vacancies, how do you know which platform is the most effective for recruiting this high-demand job function? How do you choose between posting your job description or promoting it across social media on a limited ad budget?

AML can play a major part in helping recruiters choose which platform is more suitable for a given position, and which listings should be avoided altogether. For instance, DataRobot found the solution by helping a customer build and deploy an array of AML models, increasing the volume of qualified candidate applications by over 100%.

AML also extends to the resumé review stage, offering new ways to screen graduates using data gathered during the application process, screening out low-potential candidates, and reducing the need for human intervention in resumé review significantly. During the final process of closing a candidate, DataRobot can consolidate online data about the candidate's propensity to walk away and take another offer. This helps agencies dedicate minimum resources to candidates who are less likely to leave while focusing career agent efforts on those who are considering other options for their career path.

2. INCREASE CANDIDATE QUALITY

Finding the right candidates is a perpetual challenge across government. This is a particularly acute problem in the military. All military branches are struggling to find enough recruits to maintain a fighting force. According to the latest Heritage[2] report, 71% of Americans ages 17-24 do not qualify for military service due to health problems, physical fitness, education, or criminality. Rather than compensating for these shortfalls by lowering standards and taking in less desirable recruits, a more strategic approach is needed.

In this use case, machine learning makes possible the development of highly-accurate models that recruiters can use to gain critical insights and effectively and efficiently overcome the obstacles of finding the best recruits to serve. Instead of combing through a list of prospects and relying on experience and gut instinct to guess which recruits are likely to engage, military recruiters can use predictive models and data collected about past recruits to determine a candidate's likelihood to enlist and probability of passing selection. For example, recruiters can dig deeper into data to understand what jobs and interests appeal to a candidate and put those options in front of them, increasing their propensity to engage and ultimately enlist.

It's not a use case that's limited to the military. With machine learning, all branches of the federal government can effectively and efficiently overcome the obstacles of finding the best recruits to serve.

3. TRANSFORM TRAINING AND DEVELOPMENT

Reduced budgets, a lack of employee skills, and insufficient training and development are themes typical of underperforming or at-risk federal programs claims the Office of Personnel Management[3]. Yet, many agencies don't understand the skill sets needed in their workforce or how to transfer knowledge to new employees, provide training for specialized job functions, and fill gaps in training curriculums.

Automated machine learning can transform how federal agencies address these issues and develop their learning strategies. Drawing on the vast amounts of data collected and analyzed about past learning experiences, agencies can better understand learning behaviors and predict development needs. From there, content can be personalized based on past-behavior. Furthermore, models can help make predictions on employee engagement, the learning styles they're more likely to respond to, and more.

4. REDUCE WORKFORCE ATTRITION

It's a common scenario. A public sector employee leaves public service for a more lucrative position in the private sector. To foster a workplace environment where employees want to stay and thrive, federal agencies need greater insight into what's causing employee turnover. Workforce analytics is a data-driven approach to derive actionable insights about federal personnel that leads to better business decisions.

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[2] The Heritage Foundation, February 2018. The Looming National Security Crisis: Young Americans Unable to Serve in the Military.

[3] The Washington Post, February 2018. "Understaffing, lack of training at agencies hampering agency services to public, personnel agency says".

Using automated machine learning to build predictive models utilizing historic data – such as age, benefits, salary, performance reviews, etc. – agencies can build a picture of employees likely to leave. Workers can then be assigned scores, providing supervisors with the insight they need to target at-risk public sector employees and put measures in place, such as a retention strategy, to mitigate the risk of them quitting the agency.

DATAROBOT: THE LEADER IN AUTOMATED MACHINE LEARNING

In use cases such as those described here, and many more, the DataRobot automated machine learning platform enables users of all skill levels to develop and deploy highly accurate predictive models in far less time than it takes using conventional tools and methods. It highlights the most influential factors that drive its models, explaining its predictions in a way that makes it easy for federal human capital management domain experts and analysts to understand which factors have the biggest impact on recruiting and retaining the qualified personnel that the government so urgently needs, while allowing them to make better management and organizational decisions.

DataRobot also directly addresses the key challenges of a lack of data science talent, long project timelines, and complicated provisioning by simplifying complex tasks and allowing for easy implementation – reducing the timelines required for effective model deployment from weeks or months down to hours. The platform offers a user-friendly drag-and-drop interface that allows teams to quickly test and deploy predictive models without programming skills.

Selecting, retaining, and nurturing candidates is a high priority across the federal government, and with DataRobot, civilian and defense agencies can jumpstart their transformation to an AI-driven approach to human capital management – augmenting and optimizing HR processes and improving workforce analytics by automating as much as they can.

Federal government agencies that take advantage of the DataRobot AML platform form a deeper understanding of their data and can make better data-driven decisions than ever before.