

What every HR Professional needs to know about machine learning

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HR has a significant role to play in the emerging digital work environment, and HR professionals must empower themselves with sufficient knowledge and understanding of developments such as machine learning (AI) to effectively guide and manage this process.

Human resources has been slower to come to the table with machine learning than other fields such as marketing, communications, even health care. But the value of machine learning in human resources can now be measured, thanks to advances in algorithms that can predict employee attrition, for example, or deep learning neural networks that are edging toward more transparent reasoning in showing why a particular result or conclusion was made.

Machine learning enables people to work better. It can react faster than people in helping draw out the insights and inferences that might otherwise require many people or not be uncovered at all.

What is Machine Learning?

Machine learning is a technique by which systems and machines (in the form of nuanced software programs) 'learn' overtime to speed up their future calculations and decisions and make them more successful. This is done by understanding and analysing the patterns within previously made calculations and decisions. For example, the technology powers Amazon product recommendations, Google Maps, and the content that Facebook, Instagram, and Twitter display in social media feeds.

The technique boils down to a process that is simply about understanding data and statistics. A process where computer algorithms find patterns in data, then predicts the probable outcomes. But this simple-sounding process has over the years found increasing applications across various companies. From finance companies who use it to understand its client requirements better, to tech giants using machine learning as a core driver of their operations (it is slowly becoming the bedrock of technological transformation across companies).

The benefit of utilizing machine learning is that it helps sieve through large chunks of data that many big companies generate, and by 'learning' patterns, it helps make better decisions, many of which might seem counter-intuitive at first. And the benefits are seldom restricted to a single department within the company. When implemented correctly, machine learning can help companies solve problems and predict user behaviour in ways that will help the organization grow. Machine learning is enabling companies to expand their top-line growth and optimize processes while improving employee engagement and increasing customer satisfaction.

What is Deep Learning?

Deep learning is a branch of machine learning that trains a computer to learn from large amounts of data through neural network architecture. It is a more advanced form of machine learning that breaks down data into layers of abstraction. Instead of organizing data to run through predefined equations, deep learning sets up basic parameters about the data and trains the computer to learn on its own by recognizing patterns using multiple neural network layers for processing (like neurons in the brain).

Transformation in the HR Profession

HR pros see it coming. A survey conducted by HR.com of its members found that 86% believe their profession will be transformed over the next five to 10 years. According to HR.com's "The 2019 State of Artificial Intelligence in Talent Acquisition" report, 64% of HR professionals expect to apply AI to recruitment.

The field is ripe for automation. Much of the work that HR organizations do, while important, is repetitive, such as processing and filing forms, scanning résumés and complying with information requests. Many of those tasks could be offloaded to computers, freeing humans for more analytical tasks.

Research shows that many HR organizations feel unprepared for the technology that will transform the function. While nearly half of the HR professionals surveyed give their departments high marks at meeting the current needs of the organization, only 36% said their group was prepared to thrive over the next three to five years.

Algorithms are more effective than people at correlating factors from a candidate's background with successful employees' profiles and matching people to the right jobs.

Importance of a Strong Data Foundation

You need a strong data foundation to successfully implement new technologies. Machine learning learns from the data you feed it. If you give it bad data, it's going to find patterns based upon that bad data. That makes data preparation a critical step.

Before applying automation, the HR organization first needs to determine the objective. Questions that you would love to answer should be written down first, and then walk backwards and determine what data and documents contain that information.

Beware of introducing unintentional bias. For example, if an organization has had difficulty retaining talent in the past, relying strictly upon historical records to train the algorithm could backfire. You need to be sure you have the breadth of data so the machine can look for the right patterns.

You need to undertake the following for you to successfully implement machine learning in your HR department:

- Start exploring the potential of using data more strategically in HR.
- Understand what data you have and build the skills to manage it effectively.
- Enrich once, use repeatedly. Once data has been cleaned and prepped, find as many valuable uses as possible across the organization.
- Think of machine learning (AI) as an assistant, not a replacement. While AI can provide a lot of insights quickly, it does not have that common sense that a person has.

Current Machine Learning HR Applications

1. Applicant Tracking & Assessment

Applicant tracking and assessment has topped the list in early machine learning applications, especially for companies and roles that receive high volumes of applicants. Machine learning tools help HR and management personnel hire new team members by tracking a candidate's journey throughout the interview process and helping speed up the process of getting streamlined feedback to applicants.

While the competition for the best people has driven many HR departments to use algorithmic-based assessments, a CEB article on using machine learning to eliminate bias cautions that human oversight is still of paramount importance. It's not enough to act directly on data insights, but to use this information in tandem with a driving question such as: 1) how I can link applicant traits to business outcomes; 2) which outcomes should be our focus when hiring; and 3) can predictions (hiring and otherwise) be made in an unbiased way.

1. Attracting Talent

Attracting talent before hiring has also seen an upswing in machine-learning-based applications in the past few years. LinkedIn is one example of a company using one of the most common versions of basic machine learning for recommending jobs. Other job-finding sites, including Indeed, Glassdoor, and Seek use similar algorithms to build interactive maps based on users' data from previous searches, connections, posts, and clicks.

1. Attrition Detection

Understanding people and why they decide to stay at or leave a job is arguably one of the most important questions for HR to answer. Identifying attrition risk calls for advanced pattern recognition in surveying an array of variables.

Advances in NLP have included the ability to process large amounts of unstructured data, and algorithms can also do things like identify emotional activity in comments and tease out prescriptive comments, or actionable suggestions.

JPMorgan is one of several financial institutions that has also put into place algorithms that can survey employee behaviour and identify "rogue employees" before any criminal activity takes place, an obviously more insidious form of attrition with dire consequences.

1. Individual Skills Management or Performance Development

Machine learning is showing its potential for boosting individual skill management and development. While there is room for growth in this arena, platforms that can give calibrated guidance without human coaches save time and provide the opportunity for more people to grow in their careers and stay engaged. Workday is just one example of a company building personalized training recommendations for employees based on a company's needs, market trends, and employee specifics.

Its high time HR professionals need to be proactive with people issues. Empowering people with machine learning tools increases efficiency within the organisation. It also transforms the organisation into a people-centric institution. The machine will never totally replace humans. It's always a combination.

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