



Let's Solve

Whitepaper

Intelligent Automation in Hiring – A Game Changer

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Intelligent Automation (IA) has the potential to transform Human Resources (HR). While technology is the driving force behind IA, a proactive people-oriented strategy will define the success of your IA initiative. We explore the implications of Intelligent Automation in the hiring process in this paper.

Introduction

Even though the modern workplace is getting increasingly digital with the advent of AI and bots, humans continue to play a key role. When it comes to identifying the right talent for a job – one of the highest priorities, and the biggest concerns for an organization – there's room for a collaborative approach. Today, most applications for any open position are unsuitable or unqualified. It is therefore critical to have an efficient and foolproof approach initial screening effectively – right from handling volumes, saving costs, enabling quick turnaround and picking the right resumes, to creating a pleasant experience for the candidate. With an ever-increasing number of candidates to sort

through and open roles to fill—not to mention an under-dimensioned recruitment department—it's no surprise that HR managers might be having trouble sourcing and selecting qualified candidates at scale. Moreover, as the HR function transitions from a business “cost center” to a “profit center”, technologies like Artificial Intelligence, Machine Learning, and Intelligent Automation will be crucial to bringing about this change.





Understanding Intelligent Automation

Intelligent Automation (IA) combines Artificial Intelligence (AI) with automation to help machines sense, understand, learn and act, either independently or with human assistance. Unlike traditional automation, or Robotic Process Automation (RPA), IA enables machines to reproduce not only manual activity but also make intelligent decisions as a human would. IA can understand processes and variations and take decisions based on this understanding.

IA has the potential to transform the HR function by boosting efficiency, improving productivity, and fostering innovation. It can help HR professionals make smarter decisions, help them get more done with less, and shift the focus from manual, repetitive tasks to take on a more strategic role in the organization. This will help HR save time on non-value added tasks and focus on activities like employee engagement, employee experience, and building a healthy culture.

Automating talent acquisition

Recruiters, on a daily basis, grapple with a humungous number of resumes they receive for a job posting. They have to pre-select or qualify the right candidates for the job based on the job description while meeting strict timelines and keeping up with the business and technical terminologies both in terms of comprehending the requirement as well as qualifying a candidature. IA can help recruiters move quickly into the actual interview process faster. Automating the screening process not only saves the recruiters' time significantly but also enables standardized job matching criteria, thus improving the quality of hires.

In future, finding top talent will depend on a recruiter's ability to intelligently automate their workflow and manual, repetitive tasks, and save time to focus on what's really important: business growth.

By focusing their time on designing candidate engagement strategies, and delivering an exceptional recruiting experience, the HR team can accomplish strategic business goals like improving retention and productivity.

IA allows recruiters to quickly identify candidates from applicant pools that are most likely to be high-performing, and will even pick out hidden gems that could have been missed in the initial (manual) screening process. This not only improves the quality of hire, but saves recruiters time that can be better spent on later rounds of interviews and assessments. Recruiters can harness data and use tools to automatically send relevant messages to candidates based on their behaviors.



So how does it work?

In addition to the first screening of candidates based on specific criteria fed into the system, algorithms in machine learning perform an extensive analysis of a candidate's speaking patterns, micro-gestures, eye movements, expressions and word choice, to correctly identify right-fit hires. This takes away the need to rely on the hiring manager's "gut feel" or possible biases, and uses analysis to predict performance based on past data to measure crucial skills. New age thinking believes that a face-to-face or telephone interview may not actually help employers "get to know" a candidate. There's

research that shows that interviews are not very useful when it comes to making a good candidate selection, and are in fact influenced by biases.

It is important to highlight here that algorithms work as well as the data fed into them. So if a machine algorithm is given data that is biased, it will base its decisions on these biases. A more evolved IA tool will be the one that can work in tandem with human decision-making to identify right fit hires, using predictive models based on traditional practices such as job analysis, validity studies and tests for adverse impact.

Quick win business cases for IA in hiring

Automation for recruiting has several potential applications for automating high-volume, repetitive tasks such as:

Candidate eligibility – The IA tool learns which candidates moved on to become successful and unsuccessful employees based on their performance, tenure, and turnover rates. It learns what existing employees' experience, skills, and other qualities are and applies this knowledge to new applicants in order to automatically rank, grade, and shortlist the strongest candidates. The best part is that the tool sources data from unconventional public data sources about their prior employers as well as their public social media profiles.

Employment verification – There are several types of pre-employment assessments designed to assess a candidate's fit for an open role. Some assessments are focused on measuring actual (e.g. technical) skills, whereas others are geared towards measuring things like cognitive ability, personality characteristics, and situational behavior. Pre-employment assessment platforms often allow combining different assessments into one online experience, providing recruiters and hiring managers with a holistic view of a candidate. The same kind of check will also be done on the visa status, certification, background verification, etc. Pre-hire assessment helps mitigate any potential hiring biases that might skew candidate selection. Plum, HireVue, Pymetrics and Kore are some of the more comprehensive pre-employment assessment tools being used.

Recruiter chatbots – Recruiter chatbots are being developed and tested to provide real-time interaction to candidates by asking questions based on the job requirements and providing feedback, updates, and next-step suggestions. Chatbots improve the way organizations engage with candidates by providing immediate answers to common questions applicants might have, leaving recruiters more time to answer more complex questions. Chatbots are also an excellent way to pre-qualify candidates for any specific role. Intelligent resume screeners contextually evaluate a candidate's experience, skills, and automatically identify the most qualified applicants.

Job advertising – Automating placing of recruitment ads advertisements helps target the ideal candidates anywhere, and also helps save money on ads with low return on investment. Recruiters are using advertising automation tools to push out branded content that's more appealing than the average job ads. Several job postings today include content that highlights different employee experiences and paints a picture of the company's culture.

Applicant tracking – Using technology to track an application is probably one the oldest examples of automation in the recruitment process. Recruiters use automation to collect and track the recruitment process in a hiring database. Tracking begins as soon as a candidate applies for an open role and continues throughout the hiring process so recruiters and hiring managers can all easily access details on which stage a candidate is in and collaborate in the recruitment process. Taleo, Greenhouse, SuccessFactors, Workable, Hire (from Google) and SmartRecruiters are some of the leading tools in this space.

Social recruiting – Research shows that 98% recruiters now use LinkedIn to post job ads and source candidates. A lot of these candidates are also present on social media channel like Twitter, Facebook and Instagram. There are several automation tools available today that help recruiters reach them where they're naturally spending time. Automating recruitment related posts on social media and launching recruiting campaigns can be highly effective for reaching potential candidates. Recruiters can use sorting data for social media and their employees' connections to source potential candidates as well.

Background checks – Even the most qualified candidates need to pass a background check before they're hired. Automated tools can help with name-matching, automated research on candidates, finding red flags, and removal of false hits help to improve the speed and accuracy of background checking.

Challenges to automation in hiring

To begin with, the resume screening functionality presents itself with a few key constraints such as:

No defined or explicit keywords that can be used for identifying specific information within the resume

No definite resume template to map and identify entities for extraction

Does not adhere to language syntax and semantics for effectively applying language processing techniques

Named entities may not necessarily mean employee organizations.

Automated hiring tools require a lot of data to learn how to accurately mimic human intelligence. Tools that use machine learning needs a lot of data to learn how to screen resumes as accurately as a human recruiter. This can mean several hundreds to several thousands of resumes for a specific role.

While IA tools for recruiting reduce unconscious bias by ignoring information such as a candidate's age, gender, and race, the flipside is that over time AI tools find patterns in previous behavior. This means that the tool can also learn any human bias that may already be in your recruiting process.

Deep dive into solution features

Given the constraints and use case requirements, there is no "one single approach" which can effectively solve all of these. It must be a mixture of design elements and coding techniques that'll come together as a comprehensive solution. Let's get a quick overview of the various Opensource packages that can be used to build a solution.

- Providing an enhanced user experience, by leveraging a conversational bot to accept job application requests via the portal site. In this case, a Google dialog flow along with Python serves the purpose here.
- Notifying candidates on application status, scheduling interviews is implemented using an RPA bot at the backend in conjunction with HR system functionality, email clients etc.
- Information has to be extracted from various resume formats so that text analytics can be used effectively. There are many options available here, but in our opinion, PDFMiner works well if the resumes are in the PDF format. If the resumes are based in Word, docx2txt to be used.
- Once we have the text extracted in a "reasonable" state, NLP techniques can be effectively applied to parse the text file and extract relevant information.
- Natural Language Toolkit (NLTK) libraries could be used to identify named entities like person, organization etc.

- Regular expression (RegEXr) can be used to identify educational qualifications, years of experience, contact details – phone, email etc.
- Fuzzy Logic could be used in certain places to optimize the searches and text parsing
- TinyDB proves effective to store look up values for regex and can be effectively used to configure and customize country / language specific variations, skill set etc.

Conclusion

In the next few years, finding top talent will depend on a recruiter's ability to intelligently automate their workflow. IA will also help recruiters contribute their time and efforts towards building personalized relationships with the candidates and to determine whether they're culturally perfect for the organization, while automating time-consuming, repetitive tasks such as screening resumes or scheduling interviews with candidates. The promise of AI for improving quality of hire lies in its ability to use data to standardize the matching between candidates' experience, knowledge, and skills and the requirements of the job.

For those who fear that hiring automation will replace the human factor, note that IA can enhance the high-volume recruitment process and make it more efficient (and pleasant) for everyone involved. It is not meant to replace recruiters, but rather to free them from manual tasks and let them focus their attention on tasks that require the human element. Don't forget that many organizations will be chasing the same types of tech-savvy employees, and HR teams will need to find more creative and competitive ways to engage, nurture and hire the right talent. Surely IA in hiring is a win-win for recruiters, a smoother more efficient process, combined with the confidence that the decisions are consistent and unbiased.

About the Author



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Vijay comes with 20+ years of extensive experience in architecting and consulting large scale digital transformation engagements across geographies and business domains. In his current role, he leads the RPA Centre of Excellence, and is responsible for building solutions and competency within the team to deliver value to end customers via delivery and pre-sales functions. He is TOGAF and Scrum certified, seasoned RPA professional.



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Ashok is a seasoned expert in Banking, Retail and Automation sectors, specifically in Operations, Business and Technology. He is passionate about enabling business transformation and Intelligent Automation for global clients and has delivered many successful RPA projects. In LTI, he has played a key part in automating the HR process for an E-commerce, giant and is currently leading a project for a US based insurance major to help them automate their finance processes with Intelligent RPA.

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