



THE HR PRO'S
SURVIVAL GUIDE TO
ARTIFICIAL INTELLIGENCE

PART I: REDEFINING TALENT PROSPECTING AND RECRUITMENT

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Automation will seep into more and more aspects of our work and personal lives. Increasingly, it will be hard to distinguish what is being done by a person and what is done by a machine. As a result, the fundamental nature of how humans work will be transformed and we'll have to work smarter

— Gideon Mann, head of data science at Bloomberg

Introduction

If 'the future of work' is tied to advancements in technology, Artificial Intelligence (AI) will be the key to solving the challenges faced in today's world of work, taking its place at the forefront of evolutions to help human resources professionals work smarter.

According to CareerBuilder, 55% of HR managers say AI will become a regular part of HR in the next 5 years. The disruptive technology of machine learning, natural-language processing, image processing, and automation and its implications on improving processes and communications in the workplace will enable and empower HR professionals to effectively work with increased productivity, efficiency, and accuracy.

To gauge the speed in which AI will transform the nature of work, the McKinsey Global Institute estimates that "roughly half of today's work activities could be automated by 2055, give or take 20 years."

With the impending changes to come in the workforce, there's a fear of a dystopian future controlled by AI, disrupting work as we know it by displacing and replacing people with machines in the workforce. As much as AI promises to improve the way of working as we know it, HR pros are questioning if AI will eventually make their roles redundant and obsolete.

Will artificial intelligence be the key to solving problems in the workplace, or will it present more challenges for HR professionals?



THE NEED FOR AI IN HR

The Need for AI in HR

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Certain aspects of HR are transactional in nature, such as how we capture candidate and employee information and maintain those records. Automation is key in finding efficiencies in those processes.

— ROSEMARY HAEFNER, CHIEF HUMAN RESOURCES OFFICER
OF CAREERBUILDER

In terms of its potential predicted market growth, the impact of the increasing rise of AI is comparable to the rise of the Internet in the mid-1990s.

Research firm IDC predicts **the market for AI will grow from \$8 billion in 2016 to \$47 billion by 2020**; this surge will have a massive impact on business practices across all industries, including the HR and recruitment sectors (*Inc*).

According to IBM, half of surveyed HR executives recognize AI's potential impact on their profession, transforming key dimensions of HR and affecting key roles in their organizations. 65% of CEOs envision cognitive technology driving significant value for HR functions.

A report by WorkMarket found that 90% of business leaders and employees believe that automating parts of their jobs has advantages, such as cutting down on mistakes made and wasted productivity. AI aims to help HR departments save time and increase efficiency through the automation of HR data and manual tasks. HR managers who do not fully automate certain HR functions say they lose an average of 14 hours a week manually by completing tasks that could have been automated.

Below is CareerBuilder's breakdown of the HR functions that HR managers say are currently fully automated, partially automated, or not automated at all, showing the percentage of HR manager responses for each:

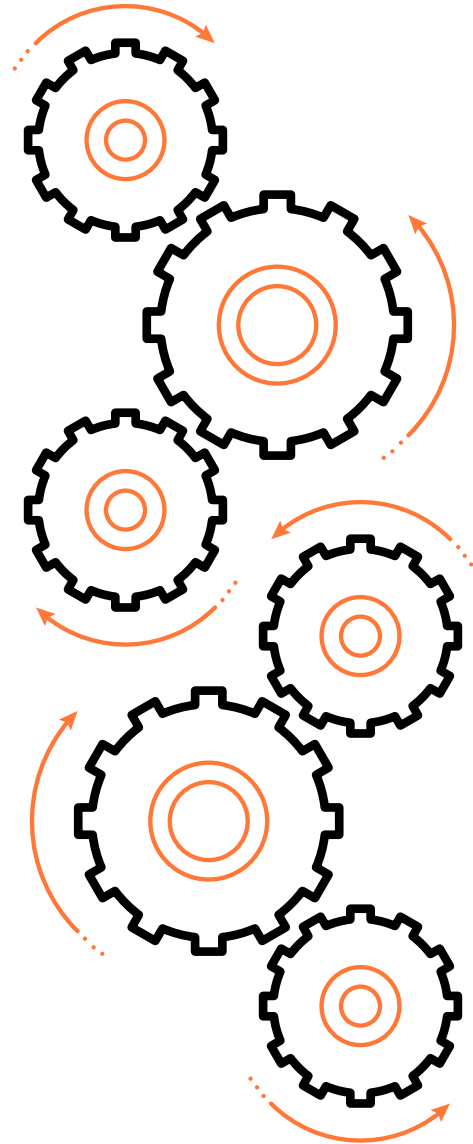
HR FUNCTION	FULLY AUTOMATED	PARTIALLY AUTOMATED	NOT AUTOMATED
Payroll	50%	42%	7%
Background checks/drug testing	39%	35%	21%
Applicant Tracking	38%	35%	21%
Benefits Administration	34%	49%	13%
Distribute job postings	30%	36%	28%
Compliance	25%	45%	27%
Performance management	24%	38%	33%
Scouring job candidates	20%	47%	25%
Predictive assessments	20%	24%	25%
Training/learning	18%	47%	28%
Employee referrals	16%	29%	45%
Onboarding	15%	56%	26%

The CareerBuilder survey found that a lack of HR automation can have a negative ripple effect on businesses. HR managers who do not fully automate manual processes have led to:

- Lower productivity: 41%
- More errors: 40%
- Higher costs: 35%
- Poor candidate experience: 18%
- Poor employee experience: 17%
- Less engagement: 17%
- Poor hiring manager experience: 11%

Surveying 887 executives from 48 countries, KPMG's HR Transformation Survey discovered that the top focus areas for intelligence automation efforts were talent management (61%) and talent acquisition or onboarding (57%). The top benefits expected from investing in these AI efforts are improved performance (56%) and freeing resources or staff to perform more strategic work (54%). Ideally, automation will minimize the quantity of work in order to maximize the quality of work, reducing time spent on low-level tasks and freeing up more time to spend on higher-level tasks that require critical thinking and creative thinking.

Ultimately, AI will help HR pros boost their efforts in various dimensions of HR, including Operations, Talent Acquisition, Talent Development, People Management and Operations. Currently, AI technology supports different stages of HR's job candidate process (such as talent recruitment and onboarding) and phases of HR's employee management, engagement, and retention efforts. As the keepers of data and the ones who oversee multiple functions, HR professionals can hand over their most time-consuming tasks to information systems, freeing up their valuable time. But at what cost?





TALENT PROSPECTING

Talent Prospecting



How AI will impact the HR experience of sourcing, evaluating & matching job candidates.

Can algorithms learn to probe the task of matching a person to a job more efficiently than humans can?

According to a [survey by Jobvite](#), talent professionals are in need of automation in their line of work. Figures found that:

The tasks recruiters would most like to see automated are:

- interview scheduling (54%)
- background and reference checking (52%)
- analytics and measurement (49%)
- sourcing candidates (47%)

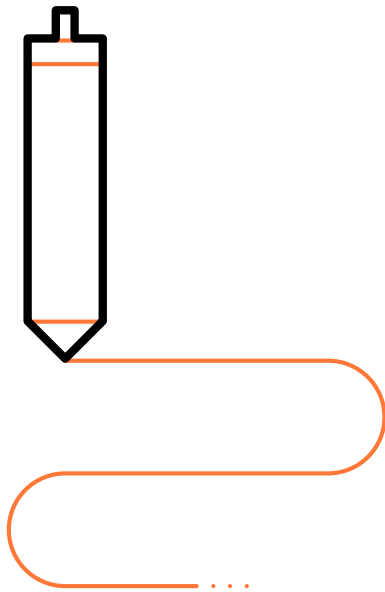
The tasks recruiters would least like to see automated are:

- interview process (53%)
- phone screenings (51%)
- salary negotiations (47%)

In response to the fear of role displacement in HR and recruitment, recruiters believe certain social skills can't be replaced by a computer, including leadership and management (79%), offer negotiations (59%), and general face-to-face communication (45%).

AI can help talent acquisition specialists and hiring managers find and place people in jobs more efficiently and effectively, ensuring candidates are well-matched from the onset. AI technology can scan data, examine multiple variables, and find patterns unseen and unrealized by the human eye. With machine learning, high-quality candidates can be found, screened, and engaged with in an efficient, unbiased, and neutral manner. Ultimately, this works to the advantage of talent professionals by reducing the time it takes to fill a job vacancy.

There are various aspects of the talent prospecting process that can benefit from AI, from crafting job postings to improving application reviews.



CREATING THE PERFECT JOB DESCRIPTION

AI software can support recruiters in crafting effective job descriptions that accurately articulate the role at hand by utilizing natural-language processing to analyze words and suggest messaging that will reach the candidates the company wants to attract. This helps expedite the time it takes to get to the interview stage with qualified candidates.

Currently, there are AI applications that achieve this. **Textio** employs augmented writing, analyzing the words in ads in milliseconds to spot exclusionary language that might dissuade good candidates from applying for the position. The software helps recruiters craft prose by offering actionable feedback and recommending phrasing to appeal to and reach the desired audience, teaching the recruiter how to write a posting more effectively. By comparing the language in an ad to previous ads that have performed well, AI software can assist recruiters in continuously crafting the right prose to reach the right candidates. ([TALENTCULTURE](#))

Even more, AI programs can recognize gender bias in ads, helping recruiters choose gender neutral language to invite an open range of candidates to apply. Employing the same tactic of machine-learning algorithms, **Talent Sonar** aims at writing job descriptions aimed at improving gender diversity by evaluating the language used in job descriptions and making recommendations to provide an inclusively worded job description that will appeal to applicants of all genders.

AI can save HR departments up to 23 hours per hire by analyzing incoming applications and using sophisticated algorithms to assess and evaluate the applicant's experience, knowledge, and skills.

— **(Ideal)**

AUTOMATING THE RESUME REVIEW PROCESS

One of the key challenges in talent prospecting is selecting the best candidates from an overflowing pool of applicants. AI allows a number of the stages in the candidate assessment workflow to be automated, increasing efficiency and insight in the process.

Currently, applicant tracking software (ATS) can alleviate the error-prone, time-consuming, and arduous tasks performed by talent acquisition professionals by allowing users to search through applicant data by entering keywords such as location, education, and experience.

AI provides an enhanced solution for handling the volume of applications, including resume parsing based on machine-learning, bringing ease into the overwhelming tasks of sifting and sorting through received resumes and ranking the candidates. As a result, more data can be gathered and assessed for each candidate and more candidates can be assessed overall.

In addition to machine learning, predictive algorithms are fast emerging as tools to identify the best candidates. AI is being trained to assess human qualities, drawing on research to analyze everything from word choice to tone to evaluate the compatibility of a candidate's personality traits for the company.



These are a few of the innovative companies that provide AI capabilities for talent prospecting.

- Based on the application information provided, **Glider** uses algorithms to assess, score, and rank candidates' qualifications and skill sets and send personalized outreach emails.
- A predictive analytics software that uses algorithms to dig into a candidate's past work and educational history, **Koru** can predict a candidate's qualities and behaviour that match the company's ideal 'impact skills and attributes,' such as one's persistence, grit, and commitment. Koru compares candidates' results to those of the company's top performers to identify those most likely to excel.
- **Fama** automates the analysis of a candidate's online identity with online clues by using natural-language processing to conduct automated research on a candidate. The software looks for indicators of positive attributes and eliminates potential bad fits by scanning the candidate's social media history.

SUPPORTING CANDIDATE MATCHING



AI can identify the traits of successful employees and recommend candidates within the talent pool with similar backgrounds and characteristics for new job opportunities. Using machine learning, employers can populate a system with information about the current top performers, such as resumes and career paths, for an open position. Candidates are then matched, ranked, and presented to a recruiter based on their set criteria of desired qualifications for the role in consideration.

AI can assist talent professionals in discovering qualified candidates right away, having more candidate conversations and building long term candidate relationships, and speeding up the candidate selection process. By getting to the task of searching the pipeline quicker and eventually matching the right people to the right roles faster and accurately, HR professionals can effectively speed up the lengthy process of recruiting top job candidates. [\(HR DIVE\)](#)

Talent prospecting solutions help companies with narrowing a pool of applicants, so that in the later stages, when employers place a premium on face-to-face interaction and human judgment, they will have more time and focus to do so. [\(FORTUNE\)](#)



TALENT RECRUITMENT
AND ACQUISITION

Talent Recruitment and Acquisition

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How AI will impact HR's recruitment process of interviewing, rediscovering & hiring job candidates.

Through cognitive computing, AI can elevate the candidate experience for job applicants, ensuring that regardless of the outcome of their application, candidates are left with goodwill towards the company.

IMPROVING THE JOB CANDIDATE EXPERIENCE WITH CHATBOTS

With chatbots and intelligent assistants, computer algorithms can be designed to simulate human conversation in the recruitment process. Similar to Alexa, Siri, and Google Home, these AI-fuelled recruitment assistants use natural language processing to collect and disseminate information from candidates at scale, ask screening questions, answer FAQs about a job, and schedule interviews. Alleviating one of the least liked tasks of recruiters, AI can help companies communicate with job seekers and close the loop when their application is no longer being considered. As well, AI-powered assistants can help job applicants get to know the work culture of an employer and determine suitability before they even apply for a role at a company.

Chatbots for applicants can help create a better experience for job candidates, empowering the individual to make better decisions in a personalized way. AI empowers these systems to help both HR and prospective job seekers get the information they need to know. With natural language processing, AI technology is trained to develop an understanding of natural speech and respond accordingly with each interaction through Natural Language Generation. The technology's knowledge base grows with every experience with candidates.

Some examples of real time advisors for HR professionals include:

- Olivia by [paradox.ai](#) is a virtual job assistant that focuses on candidate capture and screening, interview scheduling, and candidate communication and engagement. She can conduct the initial conversation with screening questions via text messaging. From the information gathered, Olivia can provide next steps and send greenlit candidates to recruiters.
- [Mya](#) automates the process from resume submission to candidate hire. She handles phone screening and interview scheduling, outputting the conversation transcript and the candidate's scorecard. She creates candidate profiles and shortlists candidates within your ATS. She also provides candidates with updates, feedback, and guidance throughout the process.
- [Ari](#) by TextRecruit is a customizable chatbot. You can import candidates from your ATS and Ari will engage in a text message conversation. You can customize with your branding, tone, and messaging. Ari tracks activity and uses reporting to optimize performance.

Predictive algorithms and machine learning are fast emerging as tools to identify and engage the best candidates and reduce drop-off rates during the application process. Companies are using AI to assess human qualities, drawing on research to analyze everything from word choice and microgestures to psycho-emotional traits and the tone of social media posts. The software tends to be used in the earlier part of the process, when companies are narrowing a pool of applicants, rather than in the later stages, when employers place a premium on face-to-face interaction and human judgment. ([FORTUNE](#))

SUPPORTING THE JOB INTERVIEW STAGE



After a resume has been selected, AI can be leveraged into the workflow of facilitating interviews and identifying the candidates with the most potential.

Video interviewing technology enhanced with AI can help talent professionals evaluate candidates by using data points to analyze vocal intonation and inflections, word choice, and facial expressions and movements. Tech can analyze an interviewee's comfort level, identify whether there may be an issue with their level of honesty, and grade the quality of the answers given by picking up on social cues. ([FORBES](#))

An example of job interview tech is [HireVue](#). The software uses algorithms to assess video interviews. HireVue analyzes interviews, noting actions by candidates to provide clients with feedback on a candidate's levels of engagement, motivation, and empathy. The technology can even clue in to gauge if a candidate's facial expressions contradict their words. The software can spot thousands of hints about intent, habits, personality, and other qualities, looking for links between traits found in those interviews and the eventual job performance. HireVue assesses whether a candidate uses active verbs, such as "can" and "will" or relies on negative words, such as "can't" or "have to."

While a report from a video interview may not be the only thing a hiring manager relies on in making an employment decision, it can eliminate poor fits for the role.

AI will help eliminate human bias by identifying potential bias in job descriptions and HR communication. Not only will it further protect the company from discrimination litigation, but it also improves the balance of gender and demographics within the workplace.

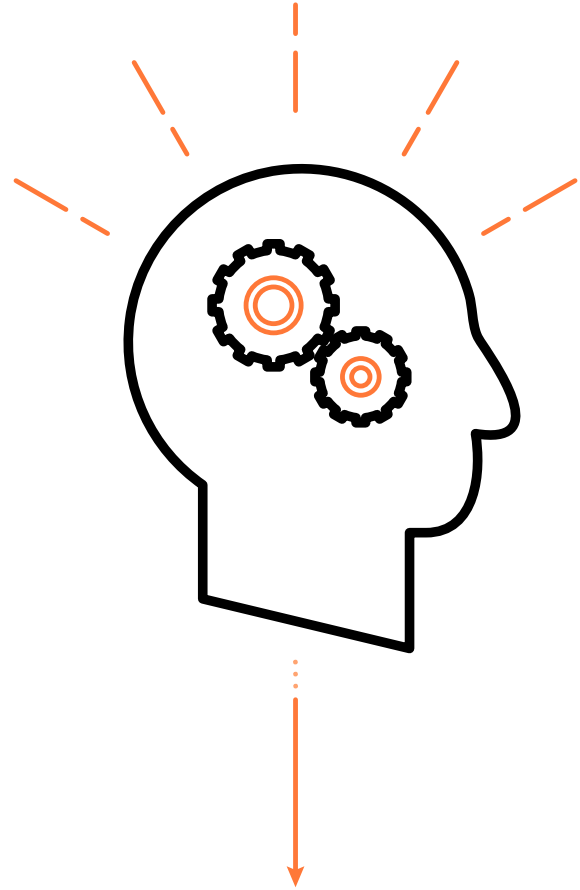
— Tiffany Servatius, Scott's Marketplace (Forbes)

REDUCING UNCONSCIOUS BIAS DURING THE INTERVIEW PROCESS

Human bias can influence recruitment. When evaluating candidates, hiring specialists are vulnerable to stereotyping and making subconscious decisions based on the personal factors of a candidate without being aware of it. AI can be programmed to disregard information regarding a candidate's age, race, and gender, as well as background history such as geographical areas lived, universities attendees, and organizational affiliations, to ensure clear judgment.

A range of companies offer human bias-reducing AI software. For instance, [GapJumpers](#) uses AI to host digital 'blind auditions', levelling the playing field for applicants. Auditioners are asked to submit work samples and challenged to answer work assessment questions anonymously. This allows recruiters to see beyond resume keywords and better assess talent through the skills, knowledge, and creativity revealed.

With AI, job applicants are ranked by objective information, paving the way towards building a more diverse workforce. That said, technology cannot currently ask an interviewee probing questions that challenge their interview responses or measure for a candidate's cultural fit, so the human element of judgment is still crucial to consider.



ENABLING CANDIDATE REDISCOVERY



65% of resumes received for high volume roles are completely ignored—the majority of received resumes are collected into an applicant tracking system but are never looked at again. This scenario is representative of the time, effort, and money invested into candidate acquisition, only for the countless of resumes collected to remain neglected in their databases.

Candidate rediscovery mines the resume database to find and match candidates from previous applications for open requisitions. This machine learning algorithm works by entering a job description of a current opening, triggering the automatic screening of each resume in the ATS to select the most qualified matches.

Ideal's solution taps into talent pools to help recruiters rediscover past candidates within their database that are potential fits for new roles. The software allows for recruiters to update the qualified candidates on new opportunities and re-engage them in the application process. The chatbot feature can further qualify a candidate by asking questions and gathering intel, optimizing initial pre-screening conversations.

With AI-enabled candidate rediscovery, talent specialists can make informed decisions about prospective candidates.

Transforming the talent process

As demonstrated by the examples of AI solutions currently available in the HR space, AI is designed to revolutionize the way talent and recruitment professionals approach the job candidate experience. AI strives to improve the processes involved in prospecting and acquiring the best talent, equipping HR with the resources to build a solid foundation for a sustainable workforce.

While the improvements to efficiency in talent and recruitment are significant, HR pros should avoid relying on technology to do the full scope of their work and forfeiting the most important aspect of their job—forging human connections with their people. The same thought applies to what will make their workforces thrive—the experience of their employees. Is AI capable of making effective transformations to the people experience after the hire has been made? Or is it an opportunity half realized?

Find out in our next ebook, Part 2: Boosting the Employee Experience.

Get a free demo today

Save time & money with all-in-one HR,
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