

AI-Powered Talent Matching: Improving Quality of Hire

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Executive Summary

In the changing landscape of talent acquisition, organizations are expected to fill in open position quickly and at same time make sure candidate is high-quality hired. Last year (2022) with introduction of Chat GPT, the AI powered talent matching solutions have emerged vastly which promises to enhance recruiting landscape, improve overall hiring process and recruiting world. In this paper we will understand what is AI and Machine learning, how AI can help us achieve talent matching, benefits of Talent matching with AI, what are the main challenges of using AI in talent acquisition and future scope.

1. Introduction

Talent acquisition is undergoing a huge shift. The adoption of AI in recruitment is set to re define this space with demand for fair, efficient and data driven hiring decisions. AI driven talent systems use algorithms to carry out tasks such as analyzing candidate profiles along with job descriptions to find the best suitable candidates for the job. This helps in reducing manual effort and at same time improves the quality of hire and reduces time to fill the position. In this white paper we will dive deep to find out how AI can be used to match talent to improve quality of hire. [1]

2. How does AI work for Talent Matching?

The terms AI (Artificial Intelligence) and Machine Learning (ML) are often used interchangeably, but they refer to different concepts. Here is the difference with respect to recruiting:

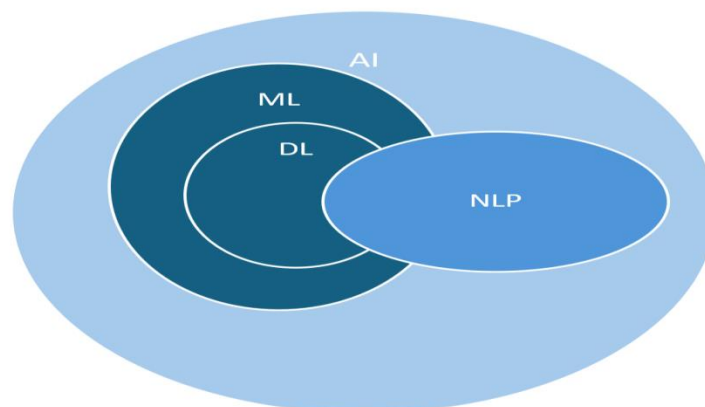


Fig 1: AI, ML and NLP diagrammatic representation[2]

2.1 Artificial Intelligence (AI)

Artificial Intelligence is an ability of the computer program to conduct the tasks that normally require human intelligence. For example, activities like understanding the problem, solving the problems, and taking decisions with reasoning. Overall, AI is a technology that is aimed at simulation of human-like behavior and activities.

With respect to recruiting, AI can be utilized to assist recruiting coordinators for their work. Another example of AI in Recruitment is Chatbots, which help candidates with job search results or AI driven systems like Eightfold who rank candidates by matching their resume with job description and requirements. [2]

2.2 Machine Learning (ML)

Machine Learning (ML) is a branch of AI, and it is driven by algorithms. Algorithms consist of a set of instructions that tell a computer how to learn and perform tasks. ML enables computer systems to identify patterns and make decisions based on data. As we expose ML systems to more data, ML models improve their performance and identify patterns as well.

With respect to recruiting, ML algorithms might try to predict which candidates are suitable for a particular role based on data from previous hiring decisions. For example, if an employee with 10 years' experience with specific skill set and experience has performed better in a particular job then ML models can use that data to suggest candidates that meet similar criteria.

2.3 Natural Language Processing (NLP)

Natural Language Processing (NLP) is a subfield of AI and ML. As its name suggests, it focuses on enabling computers to understand and generate human language.

With respect to recruiting, NLP can help streamline process by enhancing different tasks like screening, communication etc. For example, a chatbot on the company job listing page can help candidates search for suitable job requisitions based on inputs or clarify candidate questions.

In summary, AI in recruiting can automate many tasks that would typically require human input. Machine Learning helps refine and improve these processes over time, by learning from data and making predictions or decisions based on patterns found in that data whereas NLP helps build a gap between human communication and machine language/understanding. [2][3]

3. Talent Matchingscope with AI:

Below listed area few areas where AI can play a crucial role with Talent Matching:

3.1 Resume Screening and Candidate Ranking

In a job market like today's, most of the job requisitions get 100s of applications. Going through each job application is a tedious and manual process for recruiters. AI can play an important role in simplifying this initial stage in recruiting by:

- Scanning resumes in reference to job description to identify skills, experience, qualifications, and keywords matching job description
- Based on the above screening, AI can help rank the candidates from most suitable to list suitable

3.2 Predictive Analytics for Forecasting

AI makes it easy to predict events based on historical data. In recruiting, when historical data is available AI can identify patterns and datapoints that led to successful hire in the past. Those data points can be used to predict if any shortlisted candidate would succeed in the role.

For Example, based on data from past hires, AI could predict that candidates with a specific background in data analysis and a certain set of soft skills such as communication and teamwork are more likely to excel in a data science role.

3.3 Natural Language Processing (NLP) for Job Descriptions and Resumes

NLP techniques are evolving day by day. NLP technique helps:

- In interpreting job descriptions and resumes so candidates can be ranked effectively
- NLP algorithms help to extract critical information like soft skills, technical skills, experience, technology being worked on etc. from various formats of resume.

For example, If Job description lists Project management in touch technology and candidate resume says “Project management with focus on software development” then NLP algorithms would rank down that candidate though “Project Management” skill set matches but not the work experience domain. [3][4]

3.4 AI Chatbots

AI chatbots are another advantage AI offers [4]. These chatbots:

- Help candidates to look for suitable role from open job requisitions by asking correct questions. For example, if candidates are looking for a Software engineer role, Chatbot can ask relevant questions like years of experience, domain, computer languages known etc. and shortlist the most suitable job requisition to candidates.
- Answer candidate queries about the job, company, and application process in real time enhancing candidate experience [5]

3.5 Addressing Bias

AI based resume parsers can help address bias at work and develop more inclusive workplace. The resume parsers can be trained to:

- Ignore irrelevant information such as age, gender, and race.
- Rank candidates based on only job-related factors like skills, qualifications, and experience, helping to create a more diverse and inclusive workforce. [6]

4. Benefits of AI powered Talent Matching

AI powered talent matching provides lot of benefits. Here is the list of few key benefits of using AI in Recruiting to achieve improved quality of hire:

4.1 Better Efficiency and scalability

AI driven engines provide automated resume screening. User speed to define what they are looking for in a candidate and resume parser short list candidates in no time. So, if any job requisition received more than two-digit job applications also would make the process effective. AI matches candidates based on skills, experience, and preferences in real time. Also, AI tools can be scaled to handle larger volume of applications during seasonal hirings. [7]

4.2 Larger Talent Pool

AI based applications do not just parse current applications that have from current job requisitions but scans the candidate database from past and even internal candidates (it is configurable option in AI system like Eightfold) to show case if any of those past candidates or candidates who applied for similar other job requisitions as well resulting in larger talent pool. Along with this, AI powered platforms access candidates across various locations across the globe as well. [8]

4.3 Addressing Human Bias:

As of 2023, a survey [reference below link] mentions that 68% of recruiters are of the opinion that AI will reduce unintended bias since AI can anonymize resumes by removing data related to age, gender, name etc. Human decision making is subjective and that introduces unintended bias at time. AI algorithms are objective and maintain the same criteria for all candidates, so it helps in addressing unintended bias.[9]

4.4 Data Driven decisions:

With AI engines, we can process huge amounts of data from different aspects. For example, what are in demand skills or what are different roles, market benchmark for pay for skills are available in summarized view for recruiters and hiring managers to make hiring decisions. AI can also utilize data such as employee performance over the time who have been recently hired in the past so that feeds as input for future talent matching processes. [10]

4.5 Advantage vs competitors.

With AI enabled tools, hiring decisions tend to be taken faster resulting in faster hiring providing competitive advantage in current job market to get top talent onboard. Also, AI based tools help define employer branding as the organization is using the late stand candidate friendly AI technology.

5. Challenges and Considerations

Every new technological upgrade poses some challenges. Here are a few challenges Talent matching with AI:

5.1 Data privacy:

Candidate data includes sensitive personal and professional data. This poses significant challenges for any AI system from data privacy and handling of this data perspective.

This challenge can be addressed by remaining compliant with regulations such as GDPR and CCPA. Maintaining security of candidate data by defining appropriate roles and security tied up to those roles to limit access to sensitive candidate data like age, ethnicity, race etc. along with this investing into industry standard based data encryption tools help with appropriate data handling. Regular audits of the system for refining access to sensitive data is an additional method to handle candidate data. [11]

5.2 Bias:

We mentioned across this paper how AI helps in addressing human Bias concern. But if the AI system is not well trained, then AI based results can also lead to Bias leading to significant concern.

This challenge can be addressed by analyzing the base of AI systems that are training data sets on which NLP models are working. This data set needs to be diverse and represent diversity. Also, AI system needs to go with timely audit upgrades for their ML algorithms to address this issue. Along with this, Human interference before final decision is crucial as well to address AI bias.[12]

5.3 Transparency:

Any organization who relies heavily on AI based tools should train the recruiting team and hiring team to understand how the AI system, for example how resume parsers work, how candidates are ranked etc. should be informed about these so recruiters and hiring managers are aware about the decision making that goes in. This will build trust and allow for feedback from end users to refine AI algorithms. [13]

6. Future scope in AI powered Talent Matching

6.1 Personalization:

AI systems can provide further personalization by looking into aspects such as career aspiration of the candidate, personality of the individual and providing suggestions to most suitable job opportunities based on this information.

6.2 Background checks:

Background is mostly a human driven activity as of now and most organizations rely on third parties to carry out these background checks as the last stage of hiring process. This process is lengthy and time consuming as of now. AI systems can be used to carry out background checks while staying relevant with new laws and regulations. [13]

6.3 Continuous Learning Systems

AI systems will be evolving with time to accommodate new job market trends, new skills in demand and to handle evolved candidate expectations truly becoming an ever evolving learning system. This evolution will make sure that organizations remain competitive and use innovative technologies as recruiting world adapts to AI wave.

7. Conclusion

Introduction of AI into talent acquisition has changed the way organizations approach hiring top talent. By using technologies like machine learning and natural language processing, various aspects of hiring are automated from resume screening and candidate ranking to predictive analytics and chatbot.

AI-powered talent matching has numerous benefits including improved efficiency. Scalability, access to larger talent pool, reduces human bias and data driven decision making. But this comes with its own challenges like data privacy concern, potential bias due to algorithms, and transparency issues. Due to these challenges organizations need to invest time in regular audits and compliance with laws and regulations.

The future of AI is bright and exciting with opportunities in growth in areas such as personalization, automated background checks, and continuous learning systems that adapt to evolving job market trends. AI driven Talent matching is not just a technological innovation but a revolutionized approach for building fair and inclusive hiring process that meets modern work force demands.

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