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AI and HRM – An innovative approach to Recruitment

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ABSTRACT
Artificial intelligence relates to innovation and industry demand which is catered by technological support and excellence. The word itself reveals an artificial identity searching for online exposure of an individual. The use of technology facilitates a great opportunity to excel up one's business and day to day needs but on the other hand can also be misinterpreted.
The present paper addresses the role of AI in HRM practices in the industry to facilitate recruitment process and it also helps out proper check on identity of an individual. The HR function is an entirely different process but now a days social activity, presence on technological platform becomes a checking parameter for the same
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1. INTRODUCTION:

Artificial intelligence is playing a great role in every field now – a – days. There is no sector that does not use AI in its unique way. From engineering to Human Resource Management, AI is proving to be useful with its improving power of human like decision making.The capability through which a computational system performs tasks that are associated typically with human intelligence is Artificial Intelligence. Day - by - day, the role of AI is increasing within almost all sectors that typically implant the human capabilities of learning, reasoning, perception, and decision making by interpreting data, recognizing patterns, and adapting to achieve goals. AI helps people to work in an organized way which ultimately affect the process of achieving the objectives of the organization.

On the other hand, the Human Resource department has its crucial and unique role in an organization. It puts all the other processes in a streamlined manner which work towards running business operations swiftly. These operations involve every available manpower in the organization. Herecomes the role of dividing the work load so that the work process can be standardized. Here, the need of a helping hand arises and AI comes into frame.

Now, how can it help? It can help by achieving the work done as per the algorithm which has a prescribed set of instructions to be executed. The years of experiments and learning have made AI capable of doing many tasks. Over the years, AI has improved and now it is marking its striking presence in every sector of business and industry. Artificial intelligence (AI) has rapidly matured into a transformative force, functioning as a genuine general-purpose technology that reshapes innovation systems across sectors (Tech in Society, 2023). Characterized by machine learning, natural language processing, and deep learning, AI enhances ideation, screening, experimentation, and product development within R&D (Techno Forecast Soc Change, 2022). For example, an increase of 44% in novel discoveries is recorded in the field of materials discovery after the introduction of artificial intelligence. It lead to 39% in patent filings and adoption of radical innovations (Toner-Rodgers, 2024).This underscores AI's capability to automate data-intensive and repetitive tasks, enabling researchers and industry professionals to allocate more time to creative, strategic, and high-value activities. Thus, AI not only accelerates the pace of innovation but also broadens the boundaries of what can be discovered, designed, and commercialized—ushering in an era of rapid, data-driven technological progress which meets evolving industrial and societal needs.

AI has achieved the intelligence that now can help a lot in streamlining the process in the sector of HRM too! The tasks that have a set format irrespective of Human behaviours can now be easily performed by AI with the lowest human intervention ever. Over the years the capabilities of algorithms have improved which have led AI to do the tasks more accurately and precisely.

Human Resource Management is the sector that deals with the strategic management of employees or people of an organisation. The entire lifecycle of an employee is encompassed in this discipline i.e. recruiting, onboarding, training, performance management, and retention. HRM enables companies to adapt to changing demands of the market by planning the workforce in accordance with the organisational strategies. HRM provides a way to

anticipate skill shortages, build talent pipelines, and adapt swiftly to the market with changing demands. (SHRM, 2024; Strategic HR, 2024). Apart from administrative duties, HRM fosters an inclusive environment that promotes engagement, motivation, and a shared sense of purpose, which in turn enhances productivity and reduces turnover (ResearchGate, 2024). HRM also hels manage labour costs, ensures compliance with legal requirements, and mitigates organizational risks (MVNU, 2023). So, we can say that HRM positions employees not just as resources, but as strategic partners, transforming talent into a sustainable competitive advantage and driving long-term organizational success.

The very first step of the HRM in an employee's life cycle is recruitment. According to Edwin B. Flippo, "Recruitment is the process of searchingthecandidatesforemploymentandstimulatingthem toapplyforjobsintheorganization". The entire lifecycle of the employee starts with the recruitment and therefore it is the most crucial step also. Recruitment is a multifaceted process of sourcing, evaluating and selecting those individuals whose skills, experience and values align with the company's goals and culture. In the process of recruitment, a recruiter plays a crucial role as his decisions as a recruiter can affect the entire future of the employee and also the organisation. Therefore, there is a need of unbiased behaviour. If in the starting stages of recruitment some help can be added a recruiter may get rid of tiresome processes and be free from many biases.

Literature Review

The integration of AI into the recruitment process has fundamentally reshaped how organizations attract, screen, and select candidates. AI-enabled systems now automate sourcing by scanning job boards, social networks, and internal databases to build talent pools systematically (Mujtaba & Mahapatra, 2024; Sheng et al., 2024). Natural Language Processing (NLP) and Large Language Models (LLMs) are deployed to parse resumes, extract competencies, and rank applicants—outperforming manual review in speed and coverage (Onaly et al., 2023). On the one hand, advocates argue that AI minimizes human bias and ensures objective screening (Seppälä &Małecka, 2024; Tambe et al., 2019), the critics caution that biases persist through training data or model assumptions (Seppälä &Małecka, 2024; Schellmann, 2024). Automated decision-support systems (ADSSs), such as chatbots and video analysis tools, improve candidate experience through on-demand interaction, yet research highlights the importance of human oversight—particularly in tasks where transparency and trust are vital (Frontiers Psychology, 2022; Schellmann, 2024). Scholars emphasize that AI should complement human recruiters, not replace them, to balance efficiency with fairness and accountability (Mujtaba & Mahapatra, 2024; Frontiers Psychology, 2022).

Beyond recruitment, AI is increasingly used to verify individual identity, ensuring authenticity and securing entrypoints. Biometric techniques—such as facial recognition, voice recognition, and behavioral biometrics—leverage AI to validate the presence and identity of a person in real time (Secure Identity Hub, 2025; Online Scientific Research, 2024). AI systems analyze document authenticity via Optical Character Recognition (OCR) and detect fraud by identifying anomalies in submitted ID documentation (Secure Identity Hub, 2025). Behavioral biometrics monitor continuous patterns like typing rhythms and mouse use to detect impostors even after login (Online Scientific Research, 2024). In contrast, the rise of deepfakes and AI-generated falsified credentials presents new vulnerabilities—fraudulent videos or audio can fool face-based verification systems (Sterling Check, 2024). To mitigate these threats, identity verification platforms increasingly implement multi-modal AI detection frameworks that cross-reference biometric input with document verification and anti-deepfake analysis (Online Scientific Research, 2024; Sterling Check, 2024).

Objective of the Study

To address the role of AI in HRM practices in the industry to facilitate recruitment process and it also helps out proper check on identity of an individual.

Research Methodology

As the paper is descriptive in nature. The researcher has collected the information and data from secondary sources such as newspaper, journals, thesis, websites, case studies, reports, magazines etc.

Research Studies and Findings

AI in Recruitment Process: As a Recruiter and Identity Checker

The process of recruitment starts with the shortlisting of candidates for interview or other processes. Also, the shortlisting of candidates is done on the set formats of the requirements of the organization.

Artificial Intelligence has transformed the traditional recruitment process by introducing automation, speed, and intelligence into each step of hiring. The process begins with AI analyzing the job requirements based on role descriptions and past hiring patterns. AI systems analyze historical data and job descriptions to craft optimized postings and forecast workforce needs (Muppirala, 2023; Olawale et al., 2024). Using this information, AI tools draft optimized job postings and publish them across multiple platforms such as job boards, company websites, and social media. For candidate sourcing, these tools crawl job boards, social media platforms, and internal databases to uncover both active and passive talent, significantly reducing manual effort (Wikipedia, 2025). Once applications begin to arrive, AI systems automatically screen resumes using algorithms that parse through content, extract key qualifications, and rank candidates based on their relevance to the role. NLP-driven resume parsing then rapidly extracts qualifications, skills, and experience, ranking applicants with impressive precision—LLM based agents can screen up to 11 times faster than manual review, with up to 87% accuracy (Gan et al., 2024; Wikipedia, 2025). This allows recruiters to bypass repetitive, manual screening and focus their attention on high-potential profiles. AI can also track candidate engagement, such as response times and interactions, to provide further insight into their interest and behavior. AI chatbots engage candidates by

answering initial queries and handling scheduling, improving experience while lightening recruiter workload (Gigi &Gunaseeli, 2021).

As the recruitment process progresses, AI continues to play a significant role. Chatbots may interact with candidates, answer basic questions, schedule interviews, and collect additional information. Video interview platforms powered by AI can analyze facial expressions, voice tone, and communication style to assess soft skills. Concurrently, AI-powered video platforms analyze tone, facial cues, and body language, offering data-driven insights into communication and soft skills (The Selection Lab, 2025). Following interviews, AI systems may compare candidate data with previous successful hires to predict performance and cultural fit. Predictive analytics further enhances decision-making by assessing historical hiring trends, candidate traits, and performance data to prioritize high potential individuals (Muppirala, 2023; HireEZ, 2025). Finally, AI can assist in offer generation and onboarding by automating document preparation and sending welcome kits or training materials. This end-to-end support allows the recruitment cycle to be faster, more efficient, and often more objective, helping companies find the right talent with greater precision.This end-to-end AI integration accelerates hiring while preserving human oversight for final evaluations.

Ethical Considerations and Bias Management

While AI optimizes recruitment efficiency, it also raises critical ethical challenges. A primary concern is algorithmic bias: models trained on historical data may perpetuate existing disparities unless rigorously audited and updated (Mujtaba & Mahapatra, 2024; Wikipedia, 2025). Tools analyzing facial and vocal data have faced scrutiny over fairness and privacy, prompting regulations such as Illinois's AI Video Interview Act requiring explicit consent (Wikipedia, 2025). Additionally, excessive reliance on AI can alienate candidates, especially when human interaction is minimized, leading to feelings of impersonality and process opacity (The Times, 2024; Business Insider, 2025). To mitigate these risks, best practices include anonymizing identifiable details, ensuring human oversight in decision-making, employing fairness metrics, and maintaining transparent communication with applicants (Mujtaba & Mahapatra, 2024; The Times, 2024). Research indicates that AI-driven interview systems, when combined with ethical guardrails and human evaluation, can reduce sentiment-based bias by over 40% (Lal &Benkraouda, 2025). When thoughtfully implemented, AI supports inclusive, efficient, and data-informed recruitment—so long as technology enhances, rather than replaces, the human element.

Advantages of Efficiency and Precision

Artificial Intelligence (AI) significantly enhances recruitment efficiency by automating repetitive tasks like resume screening, candidate sourcing, and interview scheduling. AI-powered tools can process thousands of resumes within minutes, matching candidate qualifications with job requirements more precisely than manual methods (Singh, 2024; RemoteBase, 2023). For example, NLP-based resume parsing systems reduce unconscious errors by identifying key skills—even those using synonyms—ensuring fewer qualified candidates slip through the cracks (Wikipedia, 2025; RemoteBase, 2023). Additionally, saved time and resources allow recruiters to focus on strategic activities such as relationship-building and candidate engagement. AI-driven chatbots also support 24/7 candidate interaction, answering FAQs and sending real-time updates, bolstering candidate experience and freeing HR teams to manage human-centered areas of hiring (Singh, 2024; Worksind, 2024). Predictive analytics further optimize decision-making by analyzing historical hiring data to forecast candidate success and fit, guiding recruiters toward the most promising prospects (Singh, 2024; RemoteBase, 2023). Empirical data supports these advantages: generative AI has reduced manual HR workload by over 40%, and Korn Ferry reports that recruiters using AI tools have observed time-to-hire reductions of up to 30–40% (Frontiers in Human Dynamics, 2024; FT interview, 2024). As a result, organizations not only expedite their recruitment cycles but also elevate the quality and consistency of their hiring processes.

Enhancing Fairness, Candidate Experience, and Scalability

Beyond speed and accuracy, AI in recruitment offers significant improvements in fairness, candidate experience, and scalability. Intelligent algorithms enable objective evaluation by prioritizing competencies over demographic traits, which helps mitigate unconscious bias in hiring decisions (Singh, 2024; Indeed Flex, 2024). Research indicates that AI-driven hiring tools can reduce sentiment-driven bias by over 40%, leading to more inclusive talent pools (Lal &Benkraouda, 2025). Enhancing candidate experience is another benefit: chatbots and virtual assistants provide personalized, real-time feedback, scheduling updates, and support, resulting in higher applicant satisfaction and stronger employer branding—even for unsuccessful applicants (Worksind, 2024; Indeed Flex, 2024). In high-volume hiring scenarios, AI systems automate routine workflows and maintain quality and consistency regardless of application numbers, ensuring scalability without compromising experience (Worksind, 2024; Recruitryte, 2024). AI's ability to analyze thousands of candidate profiles and track application behavior enables proactive talent engagement and internal talent mobility planning (RemoteBase, 2023; Indeed Flex, 2024). This combination of fairness, quality, and scalability positions AI as essential for modern recruitment—empowering HR teams with tools to make hiring faster, fairer, and more strategic.

Algorithmic Bias & Discrimination

Despite its efficiency, AI in recruitment often perpetuates and amplifies bias, particularly against women, minority, or non-native English-speaking candidates. A major issue lies in AI systems trained on historical hiring data that reflect past discriminatory practices. For instance, a prominent AI recruiting tool had to be discontinued after it penalized resumes containing the word "women's" due

to overrepresentation of male candidates in the training dataset (Forbes Human Resources Council, 2025; SocialTalent, 2024). Similarly, facial and voice recognition algorithms demonstrate higher error rates when evaluating individuals with darker skin tones or accents, with transcription errors reaching up to 22% for some non-native English speakers (The Guardian, 2025; Wikipedia, 2025). These biased outcomes can lead to unfair rejections and exclusion of qualified applicants. Such practices have broader implications: they reinforce societal inequalities and can expose organizations to legal risks under anti-discrimination legislation. The Guardian (2025) underscores this concern by highlighting cases where AI undervalued candidates with disabilities or accents, with recruiters unable to explain or challenge the AI's decisions. Hence, without careful oversight and auditing, AI recruitment may undermine fairness and exacerbate systemic bias within hiring processes.

Transparency, Privacy & Human Touch

AI-driven recruitment tools also present serious transparency, privacy, and depersonalization challenges. Many candidate-facing AI systems act as "black boxes": recruiters and applicants receive decisions without any insight into the reasoning behind them (Forbes Human Resources Council, 2025; G2, 2024). This opacity undermines accountability, making it difficult for candidates to contest outcomes or seek feedback, and leaving organizations vulnerable to legal scrutiny under regulations like GDPR or the AI Video Interview Act (Useh, 2024; G2, 2024). Privacy is another serious concern: AI often collects sensitive personal data—from facial expressions and vocal cues to social media activity—without transparent consent or clear boundaries, increasing the risk of data misuse or security breaches (ResearchGate, 2024; SocialTalent, 2024). Additionally, automating key hiring stages can strip away the human element from recruitment, making candidates feel like mere data points rather than individuals (Feldman Daxon Partners, 2025). This impersonal experience can harm employer branding and discourage talented applicants. Protecting trust and ethical integrity therefore requires balancing AI efficiency with deliberate human oversight, transparency, and strict data governance.

Limitations of the Study

Although this paper explores the role of Artificial Intelligence (AI) in recruitment and identity verification with considerable breadth, several limitations exist. Firstly, the study is primarily conceptual and relies heavily on secondary sources, lacking primary data such as recruiter surveys or interviews that could validate the practical implementation of AI tools. Secondly, while literature has been thoroughly reviewed, the scope was limited to English-language academic and industry publications, which may exclude relevant insights from non-English or regional studies. Third, the dynamic nature of AI technologies means that advancements occur rapidly; thus, the information presented may become outdated as newer algorithms, tools, or regulations emerge. Moreover, the paper emphasizes the benefits of AI systems without equally exploring cross-cultural ethical concerns or legal disparities in AI adoption across global jurisdictions. Lastly, while the use of AI in identity verification is discussed, the technical accuracy, privacy trade-offs, and real-world success rates of these systems in high-risk environments (e.g., government or banking sectors) require deeper empirical exploration. These limitations suggest that further evidence-based research is necessary to fully assess the long-term impact and practical viability of AI in HR functions.

Future Scope

Future research on the use of AI in recruitment and identity verification should prioritize empirical investigation, including case studies and quantitative assessments of AI system performance in real-world hiring scenarios. One promising direction involves comparative analysis between human-only and AI-augmented recruitment models to measure differences in efficiency, bias mitigation, and candidate satisfaction. Additionally, future work could explore how AI systems perform across industries with diverse regulatory landscapes, such as healthcare, education, or finance, where identity verification and privacy standards are stricter. As AI continues to evolve, so do potential integrations of blockchain for immutable identity records and federated learning to preserve candidate privacy while enabling predictive analytics. Furthermore, the development and testing of explainable AI (XAI) systems would allow recruiters to understand AI-generated recommendations, increasing trust and ethical compliance. Cross-cultural studies on candidate perception and acceptance of AI-led interviews could also add valuable dimensions, particularly in global organizations. Finally, integrating AI ethics frameworks and governance mechanisms into recruitment platforms could help ensure transparency, accountability, and fairness—making AI not just a tool of convenience, but a pillar of responsible hiring practices..

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