IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 3, October 2024

Quick Hire – A Smart Recruitment Portal using AI

Ms. J. N. Vadje[1], Rutuja Dnyaneshwar Pekhale[2], Anjali Gautam Garud[3], Tejal Rajendra Bagul[4], Tejasvi Somnath Pagar[5]
Faculty, Department of Computer Engineering[1]
Students, Department of Computer Engineering[2,3,4,5]
Matoshri College of Engineering & Research Centre, Nashik, Maharashtra, India

Abstract: *The hiring process in modern organizations faces several challenges, including time-consuming manual resume screening, biased evaluations, and poor candidate experiences. Quick Hire aims to resolve these issues by leveraging artificial intelligence (AI) to automate resume parsing, provide customized assessments, and offer a data-driven approach to hiring. This paper presents the ongoing development of Quick Hire, discussing its objectives, current progress, system architecture, and future directions. The platform seeks to deliver an efficient, objective, and inclusive recruitment process for both candidates and employers.*

Keywords: hiring process

I. INTRODUCTION

1.1 Background

Hiring the right talent is critical to organizational success. However, traditional recruitment methods often involve manual processes that are prone to inefficiency and bias. Organizations face challenges such as sifting through large volumes of applications, subjective evaluations, and lengthy hiring timelines.

1.2 Problem Statement

The current recruitment landscape suffers from overwhelming candidate volumes, inconsistent evaluations, and manual screening processes. These issues lead to increased hiring time, biased decisions, and potential mismatches between candidates and job requirements.

1.3 Objectives

The **Quick Hire** project aims to address these problems by creating an AI-powered recruitment platform that:

- Automates resume screening and skill extraction using natural language processing (NLP).
- Administers customized assessments to evaluate candidates objectively.
- Provides a streamlined, user-friendly interface for candidates.
- Reduces biases through data-driven candidate scoring and ranking.

II. LITERATURE REVIEW

2.1 Automated Recruitment Systems

Parry and Tyson (2011) highlight the advantages of Applicant Tracking Systems (ATS) in reducing time-to-hire, though they lack nuanced evaluation criteria.

2.2 AI and Machine Learning in Recruitment

Jatobá et al. (2020) emphasize the transformative role of AI in recruitment but raise concerns about algorithmic bias and the need for transparent, fair AI systems.

2.3 Psychometric Assessments

Barrick and Mount (1991) argue that psychometric assessments enhance predictive validity in hiring but can extend the hiring timeline when not integrated efficiently.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 3, October 2024

2.4 Candidate Experience

Kahn (2017) underscores the importance of candidate experience in improving employer branding and talent attraction, advocating for user-friendly recruitment interfaces.

2.5 Diversity and Inclusion

Dobbin and Kalev (2016) stress the need for diversity and inclusion in hiring, recommending blind recruitment and structured interview techniques to mitigate biases.

III. METHODOLOGY

3.1 System Design and Architecture

Quick Hire incorporates a modular system architecture consisting of the following components:

- **AI-Powered Resume Parser**: Extracts key skills and qualifications from resumes using NLP models.
- **Candidate Assessment Module**: Administers aptitude and skill-based tests customized by the employer.
- **Scoring Engine**: Analyzes both resume content and assessment results to assign objective candidate scores.
- **Admin Dashboard**: Allows recruiters to manage job openings, set test criteria, and review ranked candidates.
- **Candidate Interface**: Provides a streamlined application process for users to apply, upload resumes, and complete assessments.

3.2 Technology Stack

- **Frontend**: Angular for a responsive user interface.
- **Backend**: .NET for API management and business logic.
- **AI Model**: Custom natural language processing algorithms to parse resumes and extract relevant skills.

IV. SYSTEM IMPLEMENTATION

4.1 Resume Parsing and Skill Extraction

The AI model processes uploaded resumes to extract skills, qualifications, and experience, which are then compared to job requirements. The system assigns a skill-based score to each candidate, reducing the reliance on manual resume reviews.

4.2 Custom Assessments

Admins can create assessments tailored to specific job roles, including technical tests, psychometric evaluations, and cognitive assessments. Scores from these assessments are integrated into the overall candidate ranking system.

4.3 Data-Driven Ranking

The system generates an objective ranking of candidates based on a combination of resume parsing and assessment scores, allowing recruiters to make informed hiring decisions without introducing personal bias.

V. RESULTS AND DISCUSSION

Though still under development, **Quick Hire** has already demonstrated its potential to:

- **Improve efficiency**: Automating resume screening reduces the time recruiters spend reviewing applications.
- **Enhance objectivity**: By combining AI parsing and structured assessments, candidate evaluations become more data-driven and consistent.
- **Promote diversity**: The use of blind scoring and skill-based assessments helps reduce biases in the selection process.
- **Simplify candidate experience**: A streamlined interface allows candidates to apply and complete assessments with minimal friction, improving engagement and satisfaction.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 3, October 2024

VI. CHALLENGES AND LIMITATIONS

The current phase of the project faces several challenges:

- **AI Bias**: Ensuring that the AI model does not unintentionally replicate biases present in the training data.
- **Scalability**: The platform must be scalable to handle large candidate volumes without compromising speed or accuracy.
- **Integration of User Feedback**: Ongoing user testing is required to fine-tune both the candidate and admin interfaces for optimal user experience.

VII. FUTURE WORK

7.1 System Improvements

Future iterations of **Quick Hire** will focus on:

Enhancing the AI model to reduce bias and improve the accuracy of skill extraction.

Integrating more diverse testing methodologies to cover a wider range of job roles and industries.

Expanding the reporting and analytics capabilities for recruiters to gain insights into their hiring process and improve decision-making.

7.2 User Testing

As development progresses, user feedback will be crucial in refining the system. Pilot testing with select organizations will provide practical insights into how well **Quick Hire** meets recruitment needs and any further optimizations required.

VIII. CONCLUSION

- **Quick Hire** aims to create a modern, AI-driven recruitment platform that addresses the inefficiencies of traditional hiring methods. Although the project is still in development, it has already shown promise in automating resume parsing, improving candidate evaluation, and promoting diversity in hiring. By leveraging AI and custom assessments, **Quick Hire** seeks to streamline the recruitment process while maintaining fairness and inclusivity.
- Further research and development are ongoing, and the final version of the platform will incorporate additional features based on feedback and testing.

REFERENCES

[1]. Parry, E., & Tyson, S. (2011). Desired Features of an Applicant Tracking System: Insights from the Recruitment Process. *International Journal of Selection and Assessment*.

[2]. Jatobá, S., Silva, J., & Ramos, C. (2020). The Role of Artificial Intelligence in Recruitment: Opportunities and Challenges. *Journal of Business Research*.

[3]. Barrick, M.R., & Mount, M.K. (1991). The Big Five Personality Dimensions and Job Performance: A Meta-Analysis. *Personnel Psychology*.

[4]. Kahn, S. (2017). The Importance of Candidate Experience in Recruitment. *Talent Management Journal*.

[5]. Dobbin, F., & Kalev, A. (2016). Why Diversity Programs Fail. *Harvard Business Review*.