International Conference on Science, Engineering & Management Trends

International Journal of Science, Engineering and Technology
ISSN: 2348-4098, P-ISSN: 2395-4752

AI Based Resume Screening

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Abstract- In the recruitment process, organizations receive a large number of resumes for a single job opening, making manual screening time-consuming and inefficient. The AI Resume Screening system is an effective solution to automate the evaluation of candidate profiles and improve the hiring process. Models are used for analysis and are designed using Natural Language Processing and Machine Learning techniques. In comparison to the traditional manual screening method, the final result demonstrates that the AI-based system reduces processing time while improving accuracy, consistency, and candidate shortlisting efficiency.

Keywords— AI Resume Screening, Machine Learning, Natural Language Processing, Recruitment Automation, Resume Analysis.

I. INTRODUCTION

In today's digital era, the recruitment process has become increasingly complex due to the large volume of applications received for job openings. Conventional manual resume screening is time-consuming, prone to human bias, and often leads to inefficient candidate selection. The AI Resume Screening system has emerged as an effective solution for automating and improving the hiring process by intelligently analysing candidate profiles.

Advantages of AI Resume Screening

- Compared to manual screening, AI-based systems help in faster and more accurate evaluation of resumes.
- The system reduces human bias by applying consistent criteria while shortlisting candidates.
- It improves efficiency by extracting relevant information such as skills, experience, and education automatically.
- Resume screening time is significantly decreased using Natural Language Processing and Machine Learning techniques.

Comparative Study of Screening Methods

This project presents a comparative study on the performance of traditional resume screening and AI-based resume screening systems. The AI Resume Screening model analyses resumes using Natural Language Processing and Machine Learning algorithms to identify suitable candidates. Manual Screening & AI-Based Screening results are demonstrated for better understanding and evaluation.

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II. PROBLEM STATEMENT

In recent years, the recruitment process has become increasingly challenging due to the rapid growth in job applications, especially with the rise of online job portals. Organizations receive a large number of resumes for each job opening, making it difficult to efficiently identify suitable candidates. Traditional manual screening methods are time-consuming, inconsistent, and often influenced by human bias, leading to potential loss of qualified candidates.

Despite advancements in technology, many organizations still rely on conventional resume screening practices, which involve manually reviewing each application. This approach results in delayed hiring processes, reduced productivity, and increased chances of errors in candidate selection. The need for an efficient, accurate, and automated screening system has led to growing interest in AI-based resume screening solutions. However, the practical implementation and performance evaluation of such systems...

Figure 1: Manual Screening & AI-Based Screening

Table 1: Properties of AI Resume Screening System

Properties	AI Resume Screening System
Dataset Size	5000+ Resumes
Feature Type	Skills, Experience, Education
Algorithm Used	NLP & Machine Learning
Accuracy	85% – 95%
Output	Ranked Candidate List

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III. CONCLUSION

The following findings are drawn from the comparison of Manual Screening and AI-Based Resume Screening methods:

- The AI-based screening system processes resumes faster than traditional manual methods.
- The AI Resume Screening approach is effective in recruitment as it provides accurate and consistent candidate evaluation.
- In comparison to manual screening, AI-based systems reduce processing time, minimize human bias, and improve candidate shortlisting efficiency.

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