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Trust Hire: A Secure Recruitment Platform with Intelligent Company Verification

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Abstract:

Job seekers face numerous risks like fraudulent job postings and untrustworthy recruiters because computerized systems have changed how job seekers are hired. Recruitments are being done mainly through job portals; however, most job portals still use an outdated verification process (i.e. email/phone) to determine if recruitment sources are legitimate, and provide little protection of legitimacy and safety against returning false applicants. This research looks at a new model referred to as Trust Hire, which is an AI-supported system that validates organizations, by first verifying the personas of recruiters, prior to identifying and mitigating recruiter fraudulent/risk. Components of this E-HRM System (automated document verification, risk assessment, administrative approval) work together to provide greater accountability, safety and efficiency to the computerized (Emodules) hiring system stages.

Keywords — **Authentication, risk assessment, reliability, safety, and Computerized stages e-comodules**

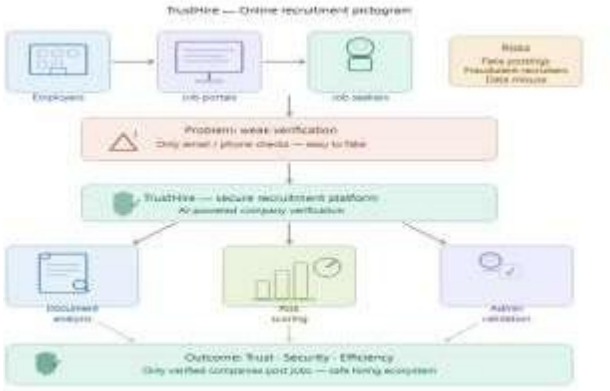
1. INTRODUCTION

Recruitment has changed significantly through Technology driven talent acquisition platforms which allow companies and job seekers to find jobs or employees without traditional time limitations or geographic boundaries. However, as recruiting with technology has grown, so have the number of instances of fake jobs being posted and unscrupulous recruiters. Some job seekers have lost money or given private information to businesses posting fake jobs or otherwise misrepresenting available positions. This problem demonstrates that the hiring platforms must create better methods for verifying the job postings and the companies posting them. Hiring platforms should implement some form of more rigorous validation of job postings to ensure that they are valid, as well as verifying that the companies posting the job postings exist. In most cases, hiring platforms currently use a fairly weak level of verification, which diminishes the level of trust and transparency in today's job market. To address the above issues, Trust Hire employs a system of verification that allows only pre-approved organizations to post job openings. Job-seekers may only be able to apply to verified companies; we feel our advanced verification process improves the detection of false or misrepresented job postings and assists employers with avoiding job posting and recruitment fraud; additionally, our system develops trust enabling users to safely share personal information, and to find, recruit, and hire qualified candidates securely and transparently.

2. PROBLEM STATEMENT

The increased number of people online has led to a significant increase in the use of online recruitment. But due to the lack of manual verification being done by most online recruitment systems, unverified companies post jobs on the site, creating a lot of opportunities for scammers and causing financial problems for job seekers. In addition, manual approval delays are creating inefficiencies in the system and affecting reputable employers . This is prompting the need for a reliable and automated

verification method to validate the authenticity of the companies posting employment and detect fraudulent activity and to provide only legitimate job postings on online recruitment sites so as to create a more trustworthy and efficient online recruitment process

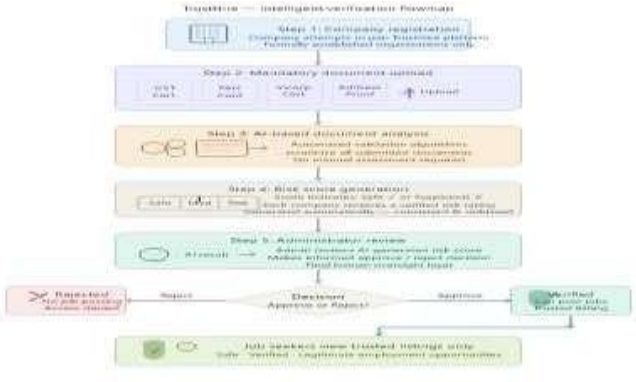


3. Literature Review

- Current electronic staffing systems have many areas of weakness according to more recent studies. Research done by Sharma & Gupta (2020) revealed that some of the more basic verification techniques (e.g., email confirmation, simple phone validation) do not have the effectiveness needed to detect fake recruiters and that advances in fraud techniques make traditional types of verification less impactful.
- Al-Jarrah et al. (2018) made it very clear that the lack of strong multi-step authentication effects user confidence and ultimately causes people to not use online recruitment platforms for finding jobs.
- Additionally, Singh & Kaur (2019) stated that the majority of existing systems only respond to fraudulent activity once it has occurred rather than trying to prevent fraud proactively; this has resulted in organisations facing continued operational issues.
- Zhang et al. (2020) concluded from their research that the use of machine-learning algorithms is a more efficient way to detect fraudulent job postings than traditional methods of rule-based detection and implied the importance of having more intelligent and dependable method of verification

4. Proposed Methodology

- Trust Hire employs an intelligent staffing authentication and verification system to ensure that companies are verified for the right to post jobs. To do this, companies must upload legally-required, certified documents: GST Certificate; PAN Number; Company Registration Certificate; Proof of Physical Address. Only registered, incorporated companies can gain access to Trust Hire.
- After submission to Our Review Team, an AI-based validated algorithm will evaluate and validate all documents submitted which eliminates the need for human validation. An Automated Review of Submitted Documents will assign a risk score to all organizations requesting access to Trust Hire. Organizations requesting access to Trust Hire will also receive information, as to whether or not the organisationis both safe and less likely to commit fraud commit fraud.



human administrator evaluates all AI evaluated applications to find if they have been approved or rejected. An unverified company cannot post a job

to this site which guarantees valid employers are available for job seekers

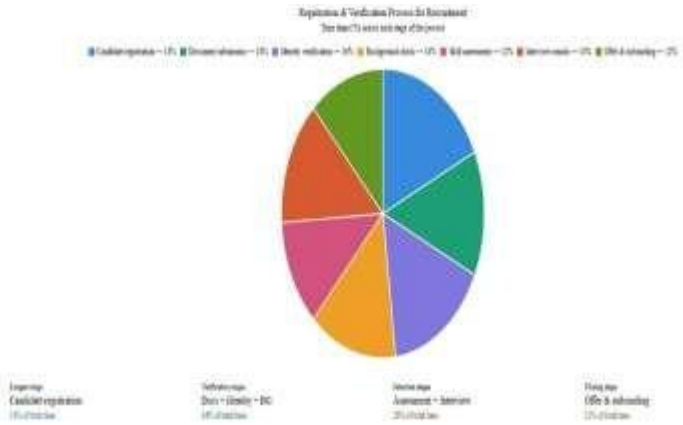
5. Methodology / Algorithm

User Role Choice
When the user chooses whether they are a Job Seeker, Company, or Admin, this will also determine level of access and what features can be used.

User Needs to Register
After the user has chosen a role, they will need to complete a registration form with their details (i.e., personal information, contact information, company information). Depending on the user's choice of role, there might be minor differences in the fields of the registration form. Each input on the registration form will be validated before it can be submitted.

Validation Process
Each piece of user input on the registration form will be validated (i.e., checked for formatting or other errors) to ensure data entered into the system is correct before continuing with the registration process. User passwords are hashed (i.e., transformed) prior to saving on the server and are stored in the database using an encrypted value to provide security for users.

Company Required to be Verified
All Companies that register with the system will be required to upload documentation providing proof of their legal standing (i.e., GST, PAN, Incorporation Certificate, Address Proof) in order to go through a company verification process.



Module Architecture:

Step 5: Analysis Using Artificial Intelligence and Risk Assessment: Uploaded documents are reviewed by Artificial Intelligence to identify discrepancies and produce a risk assessment score, which determines whether a company can be classified as trustworthy (based on its classification as trustworthy/significant) or suspicious (based on its classification as trustworthy/suspicious).

Step 6: Administrative Review: An Administrator reviews the results of an AI assessment along with supporting documentation before making a final determination regarding the legitimacy of a Company. By doing so, they provide an opportunity for human subjectivity to contribute to the process.

Step 7: Approval or Decline: Companies that have been approved may advertise open positions on the system, while those denied will not have access to any recruitment functionality.

Step 8: **Verified Job Posting:** seekers looking for jobs may apply only to jobs advertised by companies confirmed as valid, thereby eliminating potential fraudulent and/or nonexistent employment agencies from the list of opportunities available for consideration.

- The architecture of the fully functional modules has been organized into three main functional components that are directly correlated with one another: User Module, Verification Module, and Admin Module.
- The User Module is responsible for managing all end-user activities, including account registration, secure login, profile management, and job applications.
- The verification Module manages the entire life cycle of document processing, from the time a company

uploads its documents until they are processed and assigned a risk score.

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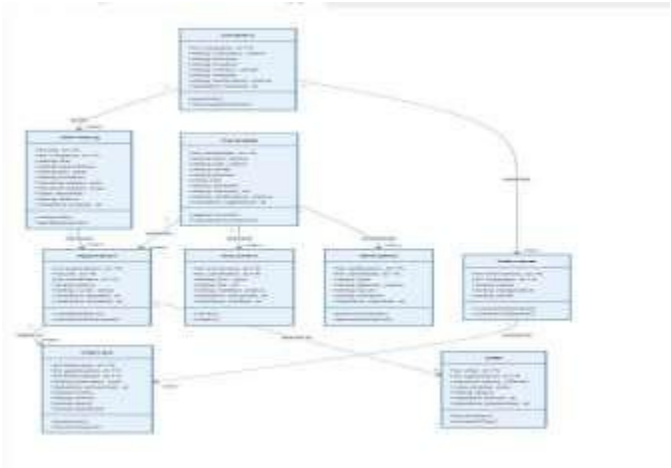
The Admin Module allows administrators to view the verification results in their entirety and provides them with full control over the final company approval/rejection decision. All three modules interface with one secure central database that contains and stores all data related to: user profile; company information; list of active jobs; and applications that have been submitted

6. Database Design

Utilising a clearly defined connectivity database table system, the Module manages and integrates data in an orderly fashion.
The Users table holds all login information and roles with access.
The Companies table has all the organizations' complete company information as well as information about their business operations.



The Company Verifications table contains all documents that have been uploaded with a status for each document indicating if they have been verified or not.
The Jobs table holds all the job advertisements/employers that were approved.
The Applications table holds the majority of the information needed for each submission and job application submitted by candidates.
The overall relational database structure allows for quick retrieval of records, maintains the integrity of the data, accommodates for growing databases, and provides secure storage of all of the critical information for each module throughout the platform.

7. Results and Discussion

According to research, automated verification can effectively minimize the number of fraudulent company registrations. Trust Hire automatically screens each company to identify any potential problems so that access to the company's account will not be granted if there is an indication of something suspicious that might occur.
As the first step in providing an automated screening process, it reduces the amount of time spent on manual reviews and increases efficiency within the company. It enhances the credibility of the platform, builds trust for both job seekers and employers to use the platform with more confidence.

8. Conclusion

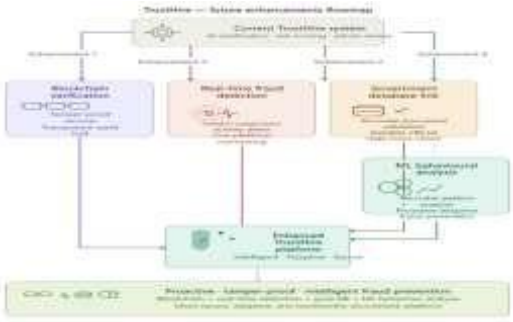
Describe how the hiring process increases the security and reliability of a module by assigning specific roles to human reviewers for subjective assessments and to automated verification tools for objective checks.
The number of tasks during the hiring process is reduced through the integration of automated document verification systems. Combined risk assessment processes and strict administrative approval methods are also applied. This prevents the system from creating duplicate tasks at any phase. As a result, a safer and more trustworthy environment is created for all hiring-related activities.

Implementing multiple verification methods, such as automated reference checks and manual performance evaluations, creates a reliable platform and increases assurance for job seekers and employers.

A preferred environment should be both visible and flexible for real hiring platforms. This greatly enhances transparency and trust in the hiring process. It also reduces the chance that job seekers will fall prey to sophisticated scams or other fraudulent activity associated with hiring.

9. Future Work

As a result of these reductions in administrative tasks for platform administrators, the intelligent module can perform full & thorough initial reviews without any human involvement. This lowers the chances of error & builds up the overall trustworthiness & reliability of the platform; providing job seekers and employers with much more confidence in the legitimacy & accuracy of job postings on the platform.



Additionally, using machine learning algorithms to analyze recruiter behavior will provide a more proactive, intelligent, and adaptive method for fraud detection on the platform.

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