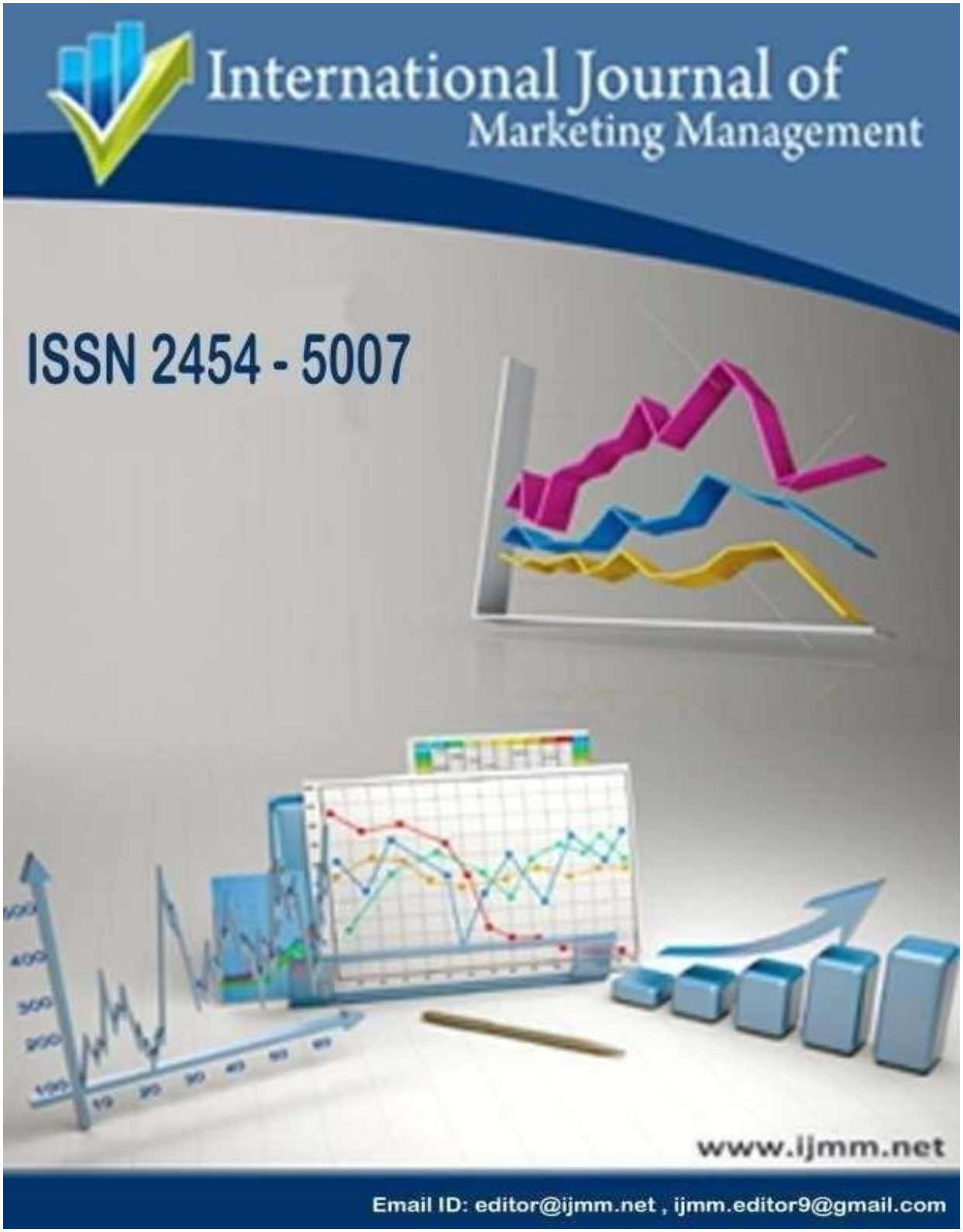
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Hire Hub- Job Matching and Recruitment Platform

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ABSTRACT

The foundation of this concept is matching employees and job seekers with a position. This relates to how quickly an employee may use this platform to find employment. The employee will be able to find employment as quickly as possible thanks to the Job Matching and Recruitment seekers, it streamlines the hiring process. Therefore, it matches the right people with the right jobs.

KEYWORDS

Skill-Based Filtering, Mongo database, Flask, Recruitment Automation, Candidate Recommendation.

INTRODUCTION

The Job Matching and Recruitment Platform with AWS is a cloud-based web application developed using Flask to efficiently connect job seekers with *Platform. Notification of a new employment role will take a long time on the current platforms. Employers may identify relevant opportunities fast and find the right people without wasting time by using candidate profiling and intelligent job matching that matches skills in the profile. For both employers and job* recruiters. It will automate essential recruitment processes such as job posting, application tracking, and user management, offering a unified and scalable hiring solution. By integrating MongoDB Atlas for cloud storage and deploying on AWS EC2, the platform ensures secure, real-time access and high availability. Traditional hiring methods are often manual, time-consuming, and error-prone; this platform overcomes those issues by providing an automated, transparent, and user-friendly environment for both candidates and employers. The system uses HTML, CSS,

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JavaScript, and Jinja2 templates for an intuitive frontend and Flask (Python) for efficient backend operations like routing, authentication, and database management.Its primary goals are to provide cloud-based scalability, streamline job applications, automate job management, and guarantee safe role-based access. The platform's modular architecture and responsive design allow for the extension of features like analytics dashboards, resume processing, and AI-based job suggestions. To sum up, the Job Matching and Recruitment Platform with AWS is a dependable and cutting-edge digital recruitment solution that modernizes hiring by decreasing manual labour, boosting communication, and increasing hiring efficiency through cloud integration and intelligent automation.

LITERATURE REVIEW

Recent years I explored some related papers to hire hub (job matching recruitment platform) in that I got some limitations. To check papers, I studied in recent papers. In that first paper is Cloud-based HR solutions improve efficiency, scalability, and accessibility, yet often lack role-specific dashboards (ResearchGate, 2025). Digital talent acquisition systems have enhanced remote hiring, but many fail to provide end-to-end application tracking (ResearchGate, 2025). Cloud HRIS platforms support hybrid workforces but do not adequately address personalized user interfaces (ResearchGate,2025).Digital of the process transformation in talent management improves recruitment outcomes, yet centralized and automated workflows are often missing (ResearchGate, 2025). HR tech solutions automate processes but frequently lack integrated job posting and application modules (ResearchGate, 2025). Studies on digital HRM emphasize skills and employee performance but overlook cloud deployment and real-time data access (ResearchGate, 2025). Web-based recruitment systems highlight usability and interface design but often lack cloud scalability (ResearchGate, 2025). Role-based dashboards improve user experience, yet many are not fully integrated into recruitment workflows (Zest Nexus, 2025). Analyses of cloud-based HRM systems indicate limited applicant tracking and job management functionality (IRJMETS, 2025), and transitioning from legacy systems to cloud platforms often neglects role-based access and usability (JETIR, 2025). Collectively, these studies indicate gaps in current recruitment platforms, motivating Hire Hub's development to combine cloud-based storage, automated job management process of the concept, and role.3pecific dashboards for a scalable and

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user-friendly solution.

RELATED WORK

In this project we Hire Hub is an intelligent recruitment platform that automates candidate-job matching, resume screening, and talent evaluation by assessing candidates' abilities, experiences, and preferences to recommend the most relevant opportunities. A carefully selected pool of competent applicants is sent to recruiters, increasing hiring effectiveness and decreasing manual labour. NLP and machine learning algorithms manage resume parsing and job matching, while the platform uses ReactJS for the front-end, Spring Boot for the back-end, and MySQL for structured data storage. Scalability and high availability are guaranteed by AWS cloud deployment, while sensitive data is protected by secure authentication. Hire Hub overcomes the drawbacks of conventional recruitment platforms by combining real-time job data, hybrid recommendation algorithms, and predictive analytics to provide a scalable, effective, and safe environment for recruiters and job seekers.

EXISTING METHOD

The majority of hiring procedures are currently manual or partially automated. Traditional approaches entail recruiters manually evaluating resumes, shortlisting prospects based on keywords, and conducting interviews. Some online job sites offer simple filtering through keyword matches or skill tags, but these methods are frequently biased, time-consuming, and prone to mistakes. Simple resume parsing or recommendation systems are used by the majority of AI-based recruitment platforms now in use, but they frequently struggle with unstructured resumes, unusual candidate profiles, and a lack of real-time job updates. Semantic matching and hybrid recommendation systems are increasing relevance; however, they are frequently computationally demanding or have restricted scalability. Furthermore, it is more difficult to guarantee high-quality recruits because the majority of platforms do not incorporate predictive analytics to evaluate candidate-job match. All things considered, these restrictions lead to inefficiencies and lower the efficacy of the hiring procedure.

PROPOSED METHOD

Hire Hub, the suggested system, is a clever hiring platform that uses sophisticated algorithms and skill-based filtering to automate the job-candidate matching process. In order to provide highly customized job recommendations, it gathers comprehensive data about each

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candidate's preferences, experience, and skill set. Through an interactive and user-friendly dashboard, recruiters can effectively post job openings, evaluate candidate profiles, and shortlist candidates, greatly cutting down on hiring time and manual labour. The platform is built with Flask for backend logic, HTML, CSS, and JavaScript for the front end, and MongoDB for scalable and adaptable data storage. It improves the user experience overall, guarantees transparency, and provides real- time notifications. Hire Hub offers a more intelligent and efficient hiring solution by optimizing the speed, accuracy, and efficiency of the recruitment process through the integration of automation and intelligent matching techniques.

SYSTEM ARCHITECTURE

Fig 1: Hire Hub (Job Matching and Recruitment Platform)

METHODOLOGY DESCRIPTION

User (Candidate / Recruiter) Accesses Web Client: - User opens the Hire Hub web UI (HTML/CSS/JS) and performs actions like sign-up, login, profile update, job search, or job posting. HTTP Request Sent to Backend: The frontend sends an HTTP(S) request (GET/POST/PUT/DELETE) to the Flask application for every user action. Authentication & Role Check: Flask validates credentials (session/JWT) and enforces role-based access (candidate vs recruiter) before proceeding.

Request Routing & Validation: The backend routes the request to the appropriate API endpoint and validates inputs (e.g., profile fields, job details).

Business Logic Execution: Flask executes business rules: create/update profiles, accept job posts, record applications, or invoke the matching engine for recommendations.

Matching Engine Invocation (if applicable): For recommendations or shortlisting, the backend runs skill-based filtering and rule-based scoring to compute match scores between profiles and job listings.

Database CRUD Operations: Flask performs Create/Read/Update/Delete operations on MongoDB Atlas to store or fetch profiles, jobs, applications, and logs.

File/Attachment Handling: Resumes and other files are stored (Grid FS/S3) and

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referenced in MongoDB; backend handles uploads/downloads securely.

Filtering & Preprocessing: Backend applies filters (location, experience, remote/on-site) and optional clustering to narrow candidate/job sets before returning results.

Notification Triggering: On important events (application submitted, shortlisted, interview invite), the backend enqueues notifications (email/push/websocket) to users.

Response Construction & Return: Flask builds the response (data + metadata like match score, highlighted skills) and sends it back to the frontend over HTTP.

Frontend Rendering & User Interaction: The web client updates the UI with results (job list, application status, notifications) and allows further user actions.

Logging & Analytics Capture: All interactions, match outcomes, and performance metrics are logged to support analytics and retraining of models later.

Admin / Monitoring & Scaling: Admin dashboards read aggregated metrics from the database; services scale horizontally (containers, load balancer, cache) as demand grows.

Feedback Loop for Improvement: User actions and outcomes feed back into the system (logs/analytics) to refine matching rules and prepare for future ML integration.

RESULTS AND DISCUSSION

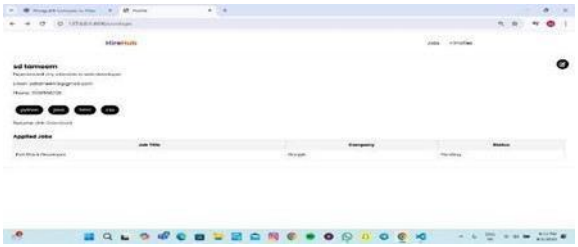

Fig 2: Candidate profile

In the above figure we have a candidate profile dashboard having name, experienced, email, phone number and skills section.

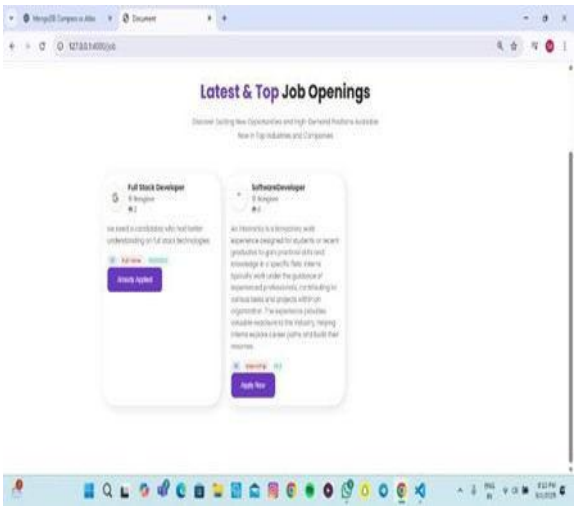

Fig 3: Jobs page

In the above figure the skills of the candidate compared with the jobs posted if there is any one of the skills are matched then it shows those job posts in jobs.

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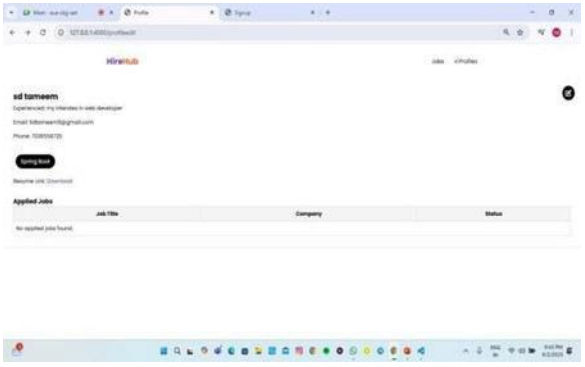

Fig 4: Candidate profile

In this figure we have one skill in candidate profile and here we have jobs option and personal details.

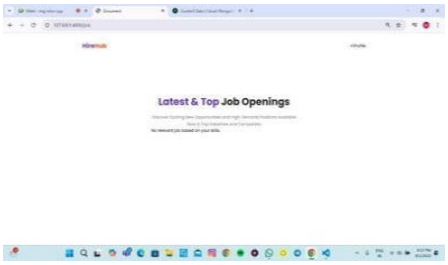

Fig 5: Job listing page

In this figure the skills of the candidate do not match with job posts. So, we are getting the message like above.

CONCLUSION

Hire Hub streamlines the recruitment process by the automating job recommendations of the process and candidate shortlisting. It serves as a centralized platform for both recruiters and job seekers, enhancing efficiency, accuracy, and transparency. By reducing manual effort and eliminating traditional hiring challenges, Hire Hub enables faster decision-making and ensures better hiring outcomes.

FUTURE SCOPE

AI/ML integration for more intelligent job recommendations and customized outcomes is one of the next improvements. Accessibility and user interaction across devices will be enhanced with a mobile application.

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