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Research Paper

PROFILE-BASED INTERNSHIP MATCHING SYSTEM

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ABSTRACT

The Profile -Based Internship Matching System is a web-based platform designed to efficiently connect students with relevant internship opportunities based on their academic background, skills, and carrer interests. It replaces the traditional, manual search process with a centralized system where students can build detailed profiles, upload resumes, and set preferences, while recuriters can post internships, define eligibility criteria, and access matched candidates. Using intelligent algorithms, the system recommends suitable opportunities, improving accuracy and reducing mismatches. With features like secure authentication, real-time tracking, and automated notifications, it ensures a seamless experience. Built with modern technologies, the platform enhances scalability, usability, and collaboration among students institutions, and industry partners.

Keywords: *Profile-Based Internship Matching, Student Skill Profiling, Web-Based Application, Recruitment Portal, Automated Matching, Career Guidance Platform.*

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I. INTRODUCTION

In the current competitive academic environment, finding the right internship plays a crucial role in enhancing students' professional growth and industry exposure. However, the traditional internship selection process often involves significant manual effort, lack of transparency, and subjective decision-making, which may result in inefficient placements. To overcome these limitations, the Profile- Based Internship Matching System is developed as an intelligent and automated platform that connects students with recruiters based on their skill sets and internship requirements. The system employs a skill-based matching algorithm to compare student profiles with recruiter criteria, ensuring objective and accurate pairing. By integrating MongoDB Atlas for efficient data management and adopting modern full-stack development technologies, the platform ensures high performance, scalability, and secure handling of information. This automated approach reduces the workload for both students and recruiters, eliminates bias in the selection process, and significantly speeds up internship matching. Additionally, the platform promotes equal opportunities by providing every student with personalized internship recommendations that align with their skills and interests. Recruiters benefit from quick access to suitable candidates, which improves hiring efficiency. Overall, this system enhances transparency, minimizes manual intervention, and creates a more effective bridge between educational institutions and industry opportunities.

II. LITERATURE SURVEY

Recently, I explored several research papers related to internship matching systems and identified some key limitations. The first paper, proposed by the LinkedIn research team, has a limited focus on internships. The second paper, Indeed Resume Search, lacks advanced ranking algorithms and provides limited support for educational or internship profiles. The third paper, on University placement Portals, involves manual shortlisting and suffers from low transparency in resumes, and set preferences, while recruiters can post internships, define the matching process. To address these limitations, the proposed Profile-Based Internship Matching System integrates semantic and weighted matching algorithms to improve accuracy and relevance, focuses specifically on internship opportunities, and automates the shortlisting process. Additionally, the system ensures greater transparency by providing clear and explainable match results for both students and recruiters.

III. RELATED WORK

The Profile-Based Internship Matching System is a web platform designed to connect students with suitable internship opportunities based on their academic background, skills, and career interests. It replaces the traditional manual search process with a centralized system where students can create profiles, upload eligibility, and access matched candidates. Unlike platforms like LinkedIn or Internshala, this system uses intelligent algorithms to provide personalized recommendations and reduce mismatches. It ensures a smooth experience with features like secure authentication, real-time tracking, and automated notifications. The platform is built using HTML, CSS, JavaScript, React.js, Python (Flask), and MySQL or MongoDB. By integrating automation and intelligent matching, the system improves efficiency and enhances collaboration between students, institutions, and industries.

IV. EXISTING SYSTEM

The LinkedIn Job Matching system, developed by the LinkedIn Research Team (2020), uses profile similarity and keyword matching to recommend jobs. While effective for general job searches, it mainly targets full-time employment and lacks features specifically designed for internship matching. The system does not account for students' academic backgrounds, internship-specific skills, or flexible eligibility criteria. Its reliance on keyword matching can lead to less accurate recommendations, often missing relevant opportunities for student users. Additionally, LinkedIn does not provide real-time tracking or automated notifications tailored to internship applications. These limitations make the platform less suited for the dynamic and specialized nature of internship placements. This reveals the need for a more intelligent and student-focused internship matching system that can offer personalized recommendations and better support both students and recruiters.

PROPOSED SYSTEM

The proposed system introduces a profile-based internship matching platform that focuses specifically on students and their unique qualifications. Instead of relying only on keyword searches, it uses intelligent algorithms to match internships with student profiles based on skills, academic background, interests, and preferred industries. Recruiters can post opportunities with flexible eligibility, and the system will automatically suggest the most suitable candidates. Students receive personalized internship recommendations and real-time notifications for new openings and application updates. The platform supports automated tracking, ensuring both students and recruiters can monitor application status easily. A recommendation engine improves accuracy by learning from user activity over time. Unlike existing job platforms, this system prioritizes internship-specific requirements, increasing the chances of

relevant matches. It also enhances engagement through a clean interface and efficient communication features. Ultimately, the method aims to bridge the gap between students and recruiters through intelligent, data- driven matching.

SYSTEM ARCHITECTURE

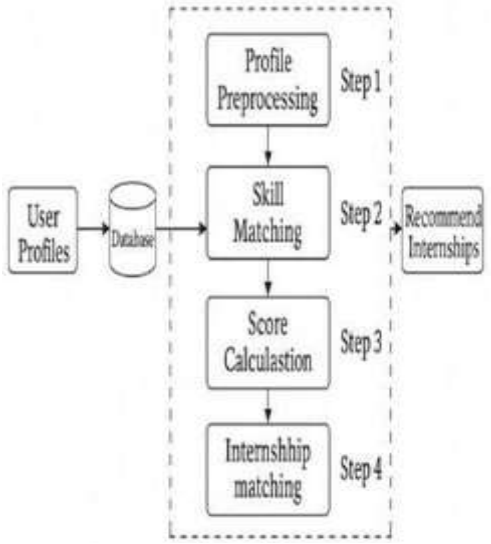

Fig:1 System design

METHODOLOGY DESCRIPTION

In Profile-Based Internship Matching System Create a user interface (UI) where students can create/edit profiles and companies can post internship opportunities. Develop APIs to handle requests such as profile creation, internship posting, and fetching match results. Design collections/tables to store user profiles, internship details, skills, and match results in MongoDB. Clean and structure user and internship data (remove duplicates, handle missing values, normalize skills/keywords). Identify and extract key attributes like skills, education, experience, and internship requirements for comparison. Decide on the Process the extracted features through the chosen algorithm to generate compatibility scores. Evaluate the accuracy of match results with sample data and fine-tune algorithm parameters. Implement secure login (JWT, OAuth) and data privacy measures for user protection. Host the application on a server (e.g., Node.js backend, MongoDB Atlas, and cloud hosting) so that users can access it online.

V. RESULTS AND DISCUSSION

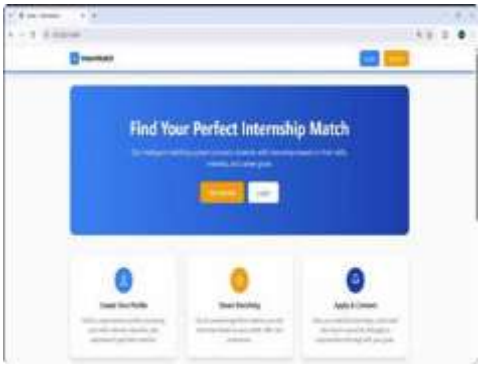

Fig :2 Home page

The Home page of the profile-Based Internship Matching System the system's home page, which provides users with easy navigation to registration, login, and internship-related functionalities in a user-friendly layout.

Fig :3 Register Page

The registration interface where new users can create their profiles by entering personal, academic, and skill-related details required for system access.

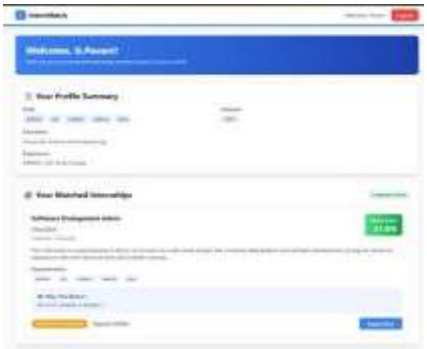

Fig 4: Login Page

The secure login interface that authenticates

users (students, recruiters, administrators) before granting access to the system's respective dashboards.

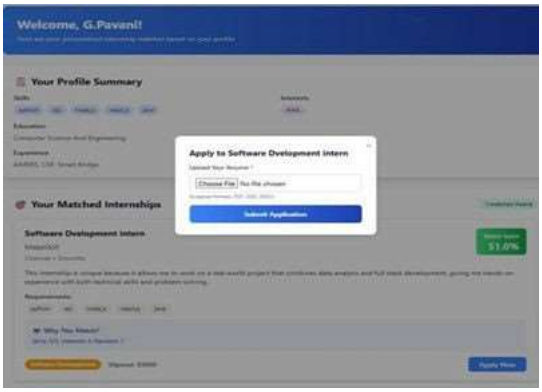

Fig 5: Apply Page

Fig 6: Admin Page

The administrator dashboard, which allows authorized users to manage student data, monitor internship activities, and oversee the overall functioning of the system.

VI. CONCLUSION

To conclude, our system provides accurate internship matching based on student profiles. It reduces time and manual effort for both students and companies. The platform in secure, user- friendly, and scalable, making it suitable for real-world use.

FUTURE SCOPE

In the future, we plan to integrate AI for smarter recommendations. We will expand the database to cover more industries, and also launch a mobile app for better accessibility. We aim to use data analytics to improve recommendations and feedback, and even expand the platform to reach specifications (IEEE Std 830-1998). IEE international students. This will make the system more powerful and impactful.

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