AI-based Resume Parsing and Job Matching System

Project Description :

This system is designed to assist both job seekers and recruiters in efficiently finding job matches. Job seekers upload their resumes (in PDF), which the system parses to extract relevant details. Using the parsed information, the system suggests suitable job offers from external sources using available and accessible APIs. Recruiters can upload job descriptions, and the system will recommend top-matching candidates from its user base.

Objectives :

1. Simplify the Job Application Process: Automate job suggestions for users based on their resume content and job listings from major platforms.

2. Assist Recruiters in Candidate Selection: Help recruiters find the best candidates by suggesting top matches based on job descriptions.

3. Increase Efficiency in Job Matching: Minimize manual searching by leveraging APIs to gather job data and applying an advanced matching algorithm.

Functional Requirements :

1. Resume Parsing System:

- User Functionality: A job seeker can upload a resume in (PDF).

- System Functionality: Automatically parse the resume to extract relevant information like skills, work experience, education, etc.

2. Job Posting Parsing:

- User Functionality: A recruiter can upload or create a job description.

- System Functionality: Parse the job posting to identify key requirements (skills, experience, etc.) and suggest matching candidates.

3. Matching Algorithm:

- Automated Matching: Use parsed resume and job posting data to match job seekers with suitable job offers or recruiters with top candidates based on specified criteria (e.g., location, skills, experience).

4. Job Offer Aggregation:

- Web Scraping or API Integration: Periodically scrape job listings or integrate with job platforms like rekrute to collect new job postings for relevant fields and locations.

5. User Types:

-Job Seeker: Upload their resume and immediately receive available job postings for it. Access dashboard for any updates on their CVs' offers.

-Recruiter: Upload job descriptions and immediately receive top-matching candidates from the user-base. Access dashboard for any updates on their job posting.

Non-functional Requirements :

1. Performance:

- Scalability: The system should handle a large volume of users, resumes, and job listings without performance degradation.
- Response Time: Resume parsing, job matching, and job scraping processes should be completed within seconds or minutes.

2. Security:

- Data Privacy: Ensure secure storage of sensitive user data (resumes, job descriptions).
- Authentication: User authentication should be required for both job seekers and recruiters to ensure the privacy and security of the system.

3. Usability:

- User-Friendly Interface: The system should have an intuitive and easy-to-use interface for both job seekers and recruiters.

- Mobile Responsiveness: Ensure the platform is responsive and can be accessed from various devices, including smartphones and tablets.

4. Maintainability:

- Modular Design: Implement a modular system design to allow for easy updates and future improvements.

5. Integration:

- APIs/Web Scraping: The system should be compatible with various job listing platforms through APIs or web scraping and be able to handle periodic updates for new job data.

Future aspirations :

— *Automated Notifications* - *New Jobs or Candidates:*

Notify job seekers when new jobs matching their profiles are found and recruiters when new candidates match their job descriptions.

— *Filtering Options* - *Filter by Criteria:* Allow users to filter jobs or candidates by location, salary range, skills, industry, and experience.