Project Report

AI-Powered Resume Ranker

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1. Introduction

The AI-Powered Resume Ranker is a web application designed to streamline the process of ranking resumes based on job descriptions using advanced Natural Language Processing (NLP) techniques. This project aims to assist both job seekers and employers by providing a platform where resumes can be evaluated against specific job requirements, ensuring a better match between candidates and job postings.

2. Abstract

In today's competitive job market, both applicants and employers face challenges in finding the right fit. The AI-Powered Resume Ranker addresses this issue by utilizing machine learning algorithms to analyze resumes and job descriptions. By extracting relevant skills and experiences from resumes, the application ranks them according to their suitability for specific job postings. This report outlines the tools used, the steps involved in building the project, and the overall impact of the application on the recruitment process.

3. Tools Used

- Programming Language: **Python**
- Web Framework: **Flask**
- Database: **SQLite**
- Machine Learning Libraries: **Scikit-learn, Pandas**
- PDF Processing: **PyMuPDF**
- Frontend Technologies: **HTML, CSS, Bootstrap**
- Version Control: **Git**
- Deployment: **Heroku (or any other platform used)**

4. Steps Involved in Building the Project

I. Requirement Analysis:

a. Identify the needs of users (job seekers and employers).
b. Define the scope and functionalities of the application

II. Design:

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III. Development:

a. Set up the Flask web application structure.
b. Implement user authentication using Flask-Login.
c. Develop the job posting and resume upload functionalities.
d. Integrate machine learning algorithms to process and rank resumes based on job descriptions.

IV. Testing:

a. Conduct unit testing for individual components.
b. Perform integration testing to ensure all parts work together seamlessly.
c. Gather feedback from potential users and make necessary adjustments

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V. Deployment:

a. Deploy the application on a cloud platform (e.g., Heroku).
b. Ensure the application is accessible and performs well under load.

5. Conclusion

The AI-Powered Resume Ranker significantly enhances the recruitment process by providing a data-driven approach to resume evaluation. By leveraging machine learning and NLP, the application not only saves time for employers but also helps candidates present their qualifications more effectively. Future enhancements could include expanding the skill set database and integrating additional machine learning models for improved accuracy.