Project Title: CAREER INTELLECT

Startup Gateway Hackathon - MERCOR, (Team Name : 3 Musketeers)

Divyansh Tripathi, Sumit Dhiman, Hamna Qaseem

Motivation

The motivation behind developing a Resume Parser is to make the recruitment process more efficient and effective. With the increasing number of applicants for each job opening, it is becoming more challenging for hiring managers to review each resume manually. This Resume Parser will help in automatically extracting relevant information such as education, skills, achievements from resume and summarized the job description that will help in quickly understanding the key points and requirements of job without reading entire description and then deployed it in streamlit app.

Problem statement

The traditional recruitment process requires hiring managers to manually review each resume, which can be a time-consuming and tedious task, especially when hundreds of resumes are received for a single job opening. This can lead to delayed hiring decisions and the possibility of missing out on highly qualified candidates. People with diverse personalities come from a variety of fields and backgrounds. Some people work in the human resources department. They will have to go through hundreds of resumes on the internet. Executives summarize the resume, enter specific information into their database, and then call the applicant for job counselling after obtaining the resume. An executive spent around 10-15 minutes on each resume, summarizing it and entering the information into the database. This project will help in the automation of this procedure.

Objective

The present study investigates the following objectives:

The objective of our project is to extract relevant information from resumes and present it in structured format that can be easily integrated into database.

- **Objective 1**: The objective of this project is to develop a Resume Parser using Python programming language.The specific objectives include data acquisition, text pre-processing, text-extraction from resume and further enhancements such as database integration and the creation of a streamlit app.
- **Objective 2**: The project aims to provide an efficient and effective solution for automating the recruitment process.
- **Objective 3**: The project aims to automate the process of parsing resumes, which involves extracting relevant information from resumes without manual intervention.

Scope of the Project

The scope of this project includes developing a Resume Parser using Python programming language that can extract relevant information from a resume and store it in a structured format. A resume parser can automatically take out relevant information from a resume, such as a education, work experience, and skills and on the basis of provided resume our system will provide information . We used OpenAPI to summarize job description. This helps in quickly understanding the key points and requirements of a job without reading the entire description. Then we compare the provided resume with a job description and generates a SWOT analysis.

Methodology

Comparison Algorithm

- Purpose: Compare two inputs based on specific criteria.

- Methodology: Read and preprocess the input data. Apply the comparison algorithm to measure similarity or difference. Generate a comparison report with the results.

- Benefits: Enables efficient and accurate comparison of data.

Job Description Skill Analysis:

- Purpose: Extract and analyze skills from job descriptions.

- Methodology: Clean and process the job description text. Identify relevant keywords and skill-related terms. Analyze the importance of identified skills through statistical analysis. Generate a report listing the extracted skills and their significance.

- Benefits: Facilitates skill analysis for job matching and recruitment.

Resume Processing:

- Purpose: Process and manipulate resumes in different formats.

- Methodology: Read and extract relevant information from resumes. Preprocess the data for consistency and accuracy. Convert the data into suitable formats (dictionary, JSON) for further processing. Generate an output or report containing the extracted information.

- Benefits: Enables automated resume parsing and information extraction.

API Implementation:

- Purpose: Implement the API for the project.

- Methodology: Define API endpoints and their corresponding URLs. Implement functions to handle incoming requests and perform required actions. Connect API functions to relevant modules for data processing. Implement validation and authentication mechanisms. Return appropriate responses, including error handling.

- Benefits: Provides a convenient interface for interacting with the project functionalities.

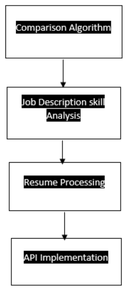

Figure 1. Flowchart

Technical Stack

Programming language:

- Python

Framework and Libraries:

- FastAPI - Alembic

DataBase:

- Postgres

Version control:

- Git

Containerization:

- Docker

Other Tools and techniques:

- Github - Docker compose

Results and Impact

The resume parser project has yielded positive results and impacts by automating resume processing, enhancing job matching accuracy, streamlining recruitment processes, improving candidate experience, and providing scalability and adaptability for future needs. The project has transformed the way resumes are evaluated and matched, bringing efficiency, accuracy, and enhanced experiences to the recruitment domain.

Deploying Project - User Interface

We have deployed our data processing and analysis functionality into a Streamlit app, which allows users to interact with the project's features seamlessly. By deploying our data into a Streamlit app, we have enhanced the user experience by providing a visually appealing and intuitive interface. Users can easily access and utilize the functionalities of our project without the need for technical expertise. The deployed Streamlit app is accessible via a web browser, making it easy to use and share with others. Users can access the app from different devices and share the link with colleagues or stakeholders for collaborative purposes.

Conclusion

Our project offers an efficient and effective solution for automating the resume processing and recruitment process. By automating the extraction of relevant information from resumes and presenting it in a structured format, we save significant time and effort for recruiters and hiring managers.

Our project has the potential to revolutionize the recruitment industry by streamlining the resume screening and selection process, improving efficiency, and enabling better decision-making. Furthermore, the modular architecture of our project allows for easy scalability and future enhancements.

The successful completion of the Resume Parser project demonstrates our team's expertise in natural language processing, data processing, and application development. We are confident that our project will make a significant impact in the field of recruitment and contribute to improved hiring processes.