**Approach Note for Resume Analyzer Documentation**

**Hosted URL: https://myresumeanalyzer.streamlit.app/**

**Introduction:**

The Resume Analyzer is a tool designed to assist in evaluating how well various resumes align with a specific job description. It simplifies the hiring process by automating the comparison of resumes against a job description, providing insights into candidate suitability. This approach note aims to provide a clear understanding of the functionality, usage, and underlying processes of the Resume Analyzer.

**Functionality:**

The Resume Analyzer offers the following key functionalities:

* **File Upload:** Users can upload a job description and one or more resumes in either PDF or DOCX format.
* **Analysis:** The tool analyzes each resume against the provided job description, assessing the match based on key information and relevant keywords.
* **Scoring:** Resumes are scored based on the presence of key information (such as contact details, education, experience) and the relevance of keywords to the job description.
* **Result Presentation:** The tool presents the top matching resumes along with their scores and detailed insights into matched key information and common keywords.

**Usage:**

Users can follow these steps to utilize the Resume Analyzer effectively:

* **Upload Files:** Begin by uploading the job description and the resumes using the file upload section.
* **Analysis:** Once the files are uploaded, the tool automatically analyzes each resume against the job description.
* **Review Results:** After analysis, the tool displays the top matching resumes based on the provided job description, along with their respective scores and detailed insights.
* **Further Exploration:** Users can expand each result to explore additional details, including matched key information and common keywords.

**Underlying Processes:**

The Resume Analyzer employs several processes to perform the analysis effectively:

* **Text Extraction:** It extracts text from both PDF and DOCX files using appropriate libraries such as PyPDF2, docx2txt, and pdfminer.
* **Preprocessing:** The extracted text undergoes preprocessing, including converting to lowercase and removing stopwords (common words like "the," "is," etc.).
* **Keyword Matching:** The tool identifies key pieces of information (e.g., email, phone number, education) using regular expressions and matches them against the preprocessed text.
* **Keyword Score Calculation:** It calculates scores based on the occurrence of relevant keywords in both the resume and the job description.
* **Overall Scoring:** Finally, the tool computes an overall score for each resume, considering both key information presence and keyword relevance.

**Conclusion:**

The Resume Analyzer simplifies the hiring process by automating the comparison of resumes against a job description, providing valuable insights to recruiters or hiring managers. Its user-friendly interface and detailed result presentation make it an effective tool for evaluating candidate suitability.

By following the steps outlined in this approach note, users can seamlessly utilize the Resume Analyzer to streamline their recruitment process and make informed hiring decisions.