**PROJECT REPORT – RESUME RANKER**

**(AI-BASED RESUME SCORING SYSTEM)**

**1. Introduction**

In today’s hiring process, recruiters often struggle to manually review hundreds of resumes for every job posting. It’s time-consuming and error-prone. ResumeRankerAI was built to address this problem by using artificial intelligence to automatically evaluate and rank resumes based on how well they match a given job description. This project brings efficiency and accuracy to the initial screening process.

**2. Abstract**

In today’s hiring process, recruiters often struggle to manually review hundreds of resumes for every job posting. It’s time-consuming and error-prone. ResumeRankerAI was built to address this problem by using artificial intelligence to automatically evaluate and rank resumes based on how well they match a given job description. This project brings efficiency and accuracy to the initial screening process.

**3. Tools & Technologies Used**

* Python
* Flask - Web Framework
* HTML + Bootstrap – Frontend design
* Chart.js – Score visualization
* pdfplumber – For reading resume PDFs
* NLTK – Natural Language Processing
* Scikit-learn – For TF-IDF and similarity scoring
* Pandas – Data handling and reporting

**4. Steps Involved**

**Step 1: User Interface Design**

* Created a clean and responsive web page with a form to upload resumes and enter a job description.
* Added dark mode toggle for better UX.

**Step 2: Resume & JD Parsing**

* Used pdfplumber to extract text from PDF resumes.
* Pre-processed the text by removing stopwords, punctuation, and normalizing it to lowercase.

**Step 3: Vectorization**

* Converted all text into numerical form using TF-IDF Vectorizer.

**Step 4: Similarity Scoring**

* Applied cosine similarity between the job description and each resume to determine relevance.

**Step 5: Ranking & Reporting**

* Generated a ranked list of resumes based on similarity score.
* Displayed results in an HTML table and created a bar chart using Chart.js.
* Exported the data as an HR report in CSV format.

Bonus Features Added

* Bar Graph: Visual score comparison
* Download Button: HR can download ranked results
* Dark Mode Toggle: For accessibility and aesthetics
* Multiple File Upload Support: Upload many resumes at once

**5. Conclusion**

ResumeRankerAI offers a smarter and faster way to handle resume screening. By automating the initial filtering process, it saves time and improves decision-making. The tool is easy to use, scalable, and built with technologies that can be further expanded — like integrating semantic matching, role-based filtering, or AI-powered interview shortlisting. It's a small step towards a more efficient hiring future.