AI program Recommendation System

Team members:

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Problem Definition

In our life sometimes we don't know which jobs are the most suitable jobs for us or we want to work in a specific job but we don't know if our skills will be satisfiable for this job or not so our project solves these problems.

For companies, our system streamlines CV filtering based on specific criteria, enabling swift identification of the most suitable candidates.

Vision / Objectives

Our project is designed to focus on recommending the best matching jobs so the main area of our project is to help people to know which jobs will be suitable for them or another case to help people that want to work in a specific field and don't know if they are qualified to this field or not Another feature of our system is an option for companies if they want to filter CVs for specific job description.
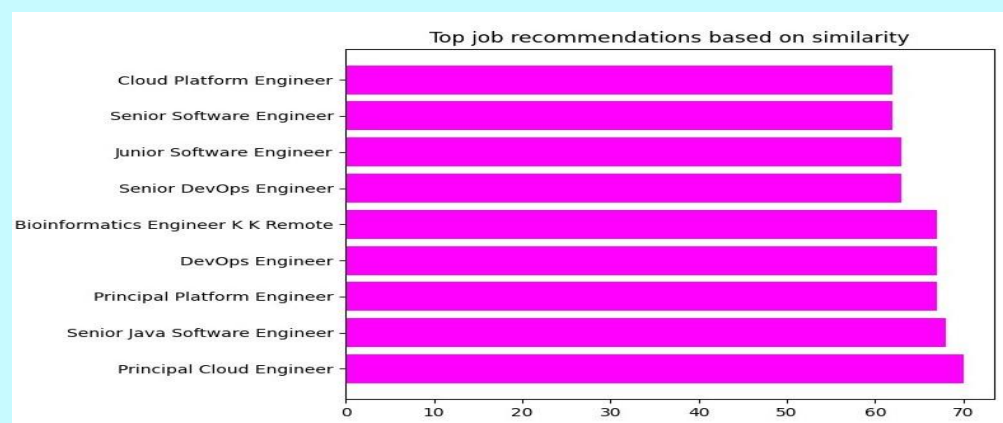
Used Technologies

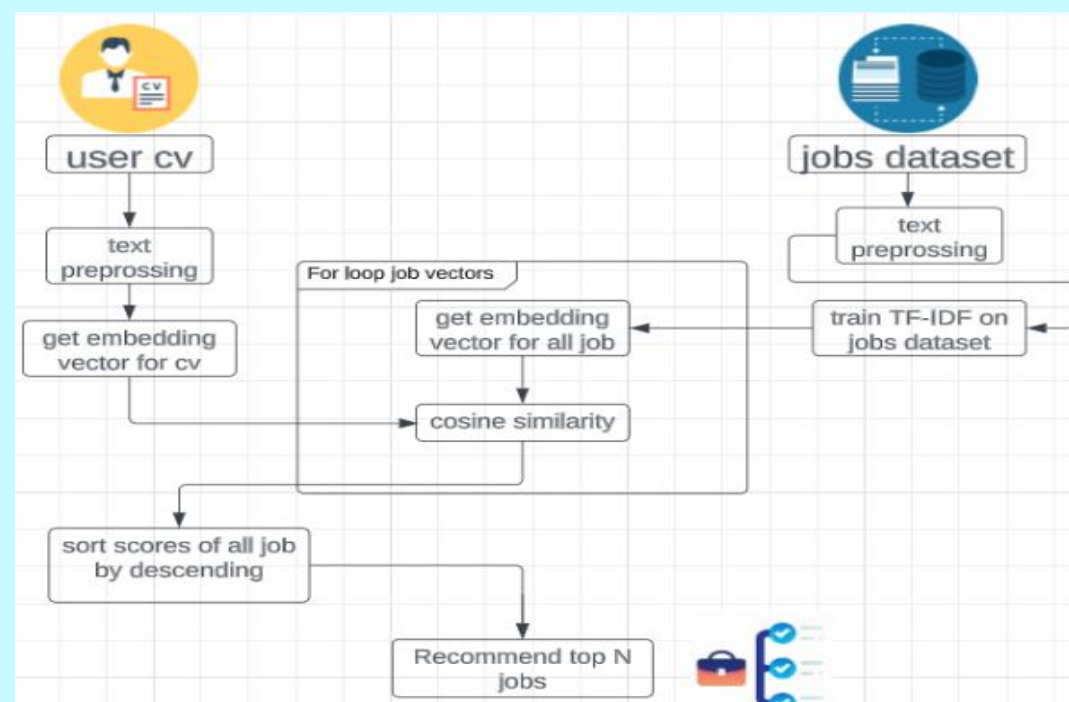bootstrap   HTML   JS   CSS

NLP   NLTK   spaCy   Octoparse

NLP Techniques: such as Spacy, NLTK and Resume Parsers are used to extract skills from cv and job descriptions.

Flask: Python web framework used to connect machine Model to web.

Web Technologies: Such as HTML, CSS, JavaScript, Bootstrap.

Methodology

1. User uploads their CV and system extracts their skills and converts text to embedding vectors.
2. System extracts required job skills from job descriptions and converts text to embedding vectors.
3. System measures similarity between user and job skills using cosine similarity.
4. Jobs are sorted based on similarity and top matches are recommended.

Deliverables

Scan this QR Code to go to the project GitHub Repository

Recommendations

After evaluating several machine learning models for job matching and candidate evaluation, the best result was obtained using the TF-IDF technique combined with LSA for dimensionality reduction. This approach was found to be effective because TF-IDF assigns higher weights to rare words, such as job-specific skills, and LSA reduces dimensionality so the words with least importance will not be considered This led to significantly higher cosine similarity scores and more accurate job matching results.

contact us: