# Job Recommendation Engine – Brief Report

## 1. Introduction:

In today's competitive job market, job seekers often face challenges in finding relevant job opportunities matching their skills and preferences. To address this issue, we have developed a job recommendation model based on content filtering. This model leverages the content of job postings to suggest relevant jobs to users.

## 2. Approach:

The approach involves the following key steps:

- **Data Preprocessing:** We cleaned and preprocessed the dataset by handling missing values, removing duplicates, and performing text processing tasks such as tokenization and stopwords removal.
- **Feature Extraction:** We used the TF-IDF (Term Frequency-Inverse Document Frequency) technique to convert job descriptions into numerical feature vectors, capturing the importance of words in each document.
- **Similarity Calculation:** We calculated the cosine similarity between job postings based on their feature vectors. Cosine similarity measures the cosine of the angle between two vectors, indicating their similarity irrespective of their magnitude.
- **Recommendation Generation:** For a given user profile (e.g., preferred skills, job title), we recommend jobs by identifying the most similar jobs based on their content. We query the index built during the preprocessing step to retrieve similar jobs and rank them based on similarity scores.

## 3. Algorithm Selection:

We chose content-based filtering as the algorithm for job recommendation due to its ability to provide personalized recommendations based on job content. Content-based filtering relies on the similarity between items (job postings) and user preferences, making it suitable for scenarios where user-item interactions are sparse.

## 4. Results:

Our model demonstrates promising results in recommending relevant jobs to users based on their Job description and Keywords (Titles).

## 5. Conclusion:

In conclusion, our job recommendation model based on content filtering offers an effective solution for assisting job seekers in finding relevant job opportunities. By leveraging job content and keywords our model provides personalized recommendations that enhance the job search experience.