“SUMMARY OF NEXT HIKE PROJECT 8”

##Project Summary: Job Market Analysis and Recommendation System

#Objective:

The project aims to analyze job market trends using data from job postings. We seek to understand:

* How keywords in job titles relate to salaries.
* Emerging job categories.
* High-demand job roles.
* Average hourly rates by country.

#Data Overview

We use a dataset containing job postings with details such as:

* Job title
* URL
* Publication date
* Hourly rates (low and high)
* Budget
* Country

#Steps and Findings

1. Data Loading and Exploration
   * We loaded the dataset and checked for missing values.
   * The dataset includes job titles, publication dates, hourly rates, and other relevant information.
2. Task 1: Analyze Keywords and Salaries
   * Data Preparation: Filled missing values and calculated an average hourly rate.
   * Analysis: Used TfidfVectorizer to convert job titles into numerical data.
   * Modeling: Applied a Linear Regression model to find out how different keywords affect hourly rates.
   * Results: Identified top keywords most strongly associated with higher hourly rates and visualized them.
3. Task 2: Identify Emerging Job Categories
   * Category Extraction: Assumed job categories based on the first word in job titles.
   * Frequency Analysis: Counted how often each category appeared in the dataset.
   * Results: Visualized the most frequent job categories to identify trends.
4. Task 3: Predict High-Demand Job Roles
   * Date Processing: Converted job posting dates to a monthly format.
   * Trend Analysis: Counted job postings per month and visualized trends for the top 5 job categories.
   * Results: Showed how job demand changes over time for the most popular job categories.
5. Task 4: Compare Hourly Rates by Country
   * Aggregation: Calculated average hourly rates for different countries.
   * Visualization: Created a chart to compare these rates across countries.

Conclusion

The analysis provided valuable insights into job market trends, including how keywords influence salaries, which job categories are growing, and how average hourly rates vary by country. This information can help job seekers make informed decisions and identify emerging job opportunities.