LINKEDIN JOB TREND ANALYSIS

INTRODUCTION

In today's digital job market, identifying the most in-demand skills across different locations and roles is crucial for both job seekers and recruiters. LinkedIn, being one of the largest professional networks, provides a vast repository of job postings that reflect current industry trends. This project focuses on analyzing job postings scraped or exported from LinkedIn to extract skill trends, determine city-wise and role-wise demand, and provide actionable job market insights.

ABSTRACT

This project analyzes LinkedIn job postings to track and visualize trending skills across various job roles and cities in India. The dataset includes job titles, associated skill tags, and job locations. By parsing and cleaning these attributes, we identify the top 10 skills in demand, generate city-wise heatmaps, and construct a skill vs. role matrix. Using Python's data analysis and visualization libraries, this project not only visualizes market trends but also recommends suitable roles and cities for specific skillsets.

TOOLS USED

Tool	Purpose
Python	Core programming language
Pandas	Data manipulation and transformation
BeautifulSoup	Web scraping from LinkedIn HTML pages
Matplotlib / Seaborn	Data visualization and heatmaps
Jupyter Notebook	Development and experimentation
Excel	Optional data export and presentation

STEPS INVOLVED IN BUILDING THE PROJECT

1. **Data Collection:**

   o Job postings were exported or scraped from LinkedIn job search results using BeautifulSoup.

   o Extracted fields: Job Title, Skills, and City.

2. **Data Cleaning & Parsing:**

   o The 'Skills' column was parsed into individual skill tags.

   o A list of top 10 recurring skills was extracted using frequency analysis.

3. **Data Transformation:**

   o Binary one-hot encoding was applied to represent the presence of top skills.

   o Grouped data by City and Job Title to summarize skill occurrences.

4. **Visualization:**

   o Created a **heatmap of top skills by city** to visualize geographic trends.

   o Created a **Skill vs Role matrix** to understand skill expectations across roles.

5. **Recommendation System:**

   o Built a basic function to suggest the best roles and cities for a given skill based on frequency distribution in the dataset.

CONCLUSION

This project successfully demonstrates how job posting data can be leveraged to uncover skill demand trends across cities and roles. By applying data scraping and analysis techniques, we built a lightweight recommendation engine that can guide professionals on where and how to focus their upskilling efforts. The system can be extended further to integrate live scraping, dashboards, or predictive analytics to enhance real-time workforce planning and career decisions.