

# **LinkedIn Job Market Analysis Project**

## **Project Overview:**

The LinkedIn Job Market Analysis project focuses on understanding current job market trends by analyzing job postings collected from LinkedIn. The main goal of this project is to identify in-demand skills, top hiring cities, role-based skill requirements, and provide job demand recommendations using real job data.

This project uses web scraping, data cleaning, analysis, and visualization techniques to convert raw job postings into meaningful insights.

## **Objective of the Project:**

The key objectives of this project are:

- To scrape LinkedIn job postings using Python
- To analyze skill demand across different cities
- To understand skill requirements for different job roles
- To identify top hiring companies
- To provide job demand recommendations
- To visualize insights using Power BI dashboard

## **Tools and Technologies Used:**

- Python – Web scraping and data analysis
  - BeautifulSoup – Web scraping
  - Pandas – Data cleaning and analysis
  - Matplotlib – Visualizations
- Excel – Data storage and preprocessing

- Power BI – Interactive dashboard creation

### **Data Collection (Web Scraping):**

Job data was collected from LinkedIn using Python and BeautifulSoup.

The following information was scraped:

- Job ID
- Job Title
- Company Name
- Job Location (City)
- Work Type (Remote / Hybrid / On-site)
- Job Description

The scraped data was saved into CSV and Excel files for further analysis.

### **Data Cleaning and Skill Parsing:**

Raw job descriptions contain unstructured text.

To make the data usable:

- Missing values were handled
- Duplicate records were removed
- Skills were extracted from job descriptions
- Skills were cleaned and standardized
- Skill tags were created as structured lists

This step helps in accurate analysis of skill demand.

## **Exploratory Data Analysis (EDA):**

Exploratory analysis was performed to understand job market trends such as:

- Top demanded skills overall
- City-wise skill demand
- Top hiring companies
- Job posting trends over time

Python visualizations such as bar charts and stacked charts were created to analyze patterns.

## **Skill vs Role Analysis:**

A Skill vs Role matrix was created to analyze which skills are required for different job roles such as:

- Data Analyst
- Data Engineer
- Software Developer

This analysis helps job seekers understand what skills are important for specific roles.

## **Job Demand Recommendation:**

Based on the frequency of skills and job postings across cities, job demand recommendations were generated.

This helps users identify:

- High-demand skills
- Cities with more job opportunities
- Roles with better demand in the market

## **Power BI Dashboard:**

An interactive Power BI dashboard was created to present insights visually. The dashboard includes:

- Job trends over time
- Top skills by city
- Skill vs role analysis
- Top hiring companies
- Job demand recommendation

Interactive filters allow users to explore data by city, skill, job title, and work type.

## **Conclusion:**

This project successfully demonstrates how real-world job market data can be analyzed using Python and Power BI.

The insights obtained from this project help students and job seekers understand current industry trends and make informed career decisions.