Analyzing LinkedIn Job Postings to Identify Trends and Insights in the Job Market Fields (2023)

Mid-Project Proposal

Prepared by

Sayed Ahmed

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I. Introduction

This data science mid-project proposal aims to analyze job postings on LinkedIn related to the field of job market trends. By examining the job descriptions, required skills, and qualifications, we can gain valuable insights into the current trends, demands, and skill requirements in the job market. This analysis can assist job seekers, employers, and educational institutions in understanding the evolving landscape of job market and making informed decisions.

II. Objectives

The objectives of this project are as follows:

- Analyze job postings to identify the most in-demand skills and qualifications in the job market fields.
- Identify emerging trends and technologies in job market based on job descriptions.
- Explore the geographical distribution of job market opportunities.
- Investigate the industries and sectors with the highest demand for specific professionals' jobs.
- Provide insights and recommendations for job seekers, employers, and educational institutions based on the analysis.

III. Methodology

- Data Collection: using the secondary data collection method from internet websites that provides datasets for researching and analyzing data, in our case w collecting the data from **Kaggel.com**. Collect attributes such as job title, company, location, required skills, qualifications, industry, and job description.
- Data Preprocessing: Clean and preprocess the data, handle missing values, remove duplicates, and standardize the text data (e.g., lowercasing, removing special characters).
- Exploratory Data Analysis: Perform exploratory analysis to understand the distribution of job postings, identify common skills and qualifications, and uncover trends and patterns.

- Skill and Qualification Analysis: Analyze the frequency and distribution of required skills and qualifications to identify the most in-demand ones. Explore their relationships and associations.
- Technology and Tool Analysis: Identify emerging technologies, programming languages, and tools mentioned in job descriptions to understand the evolving landscape of data science.
- Geographical and Industry Analysis: Investigate the geographical distribution of job opportunities and determine the industries and sectors with the highest demand for data science professionals.
- Visualization and Reporting: Present the analysis findings using visualizations such as bar charts, word clouds, heatmaps, and interactive dashboards. Prepare a comprehensive report summarizing the insights and recommendations.

IV. Dataset Information

- Project data contains 2 files of datasets, company details and job details will be merged to one dataset file.
- Merged dataset contains 15886 entries & 41 columns.
- Dataset link:
  https://www.kaggle.com/datasets/arshkon/linkedin-job-postings/code

V. Expected Deliverables

- Cleaned and preprocessed dataset of LinkedIn job postings related to the job market fields.
- Exploratory data analysis report highlighting trends, in-demand skills, qualifications, and emerging technologies.
- Visualization of skill and qualification distributions, geographical analysis, and industry trends.
- Insights and recommendations for job seekers, employers, and educational institutions based on the analysis.

VI. Required Resources

- Internet websites to collecting Linked-in job posting dataset.
- Programming languages and tools such as Python, R, Jupyter Notebook, and libraries for data manipulation, analysis, and visualization (e.g., pandas, matplotlib, seaborn, Plotly, and streamlet as a visualization website tool).

VII. Sample from The Analysis Questions

- What are the top 10 most common job titles?
- What are the Average salaries per industry?
- What are the top cities and states with most job posting?
- What are the top 10 industries by job postings?
- What are the top 10 demanded skills?
- Distribution of jobs by work type
- Distribution of job posting by experience level
- Job posting per month

VIII. Conclusion

By analyzing LinkedIn job postings in the data science field, this project aims to provide valuable insights into the trends, demands, and skill requirements in the job market. The analysis findings will assist job seekers in understanding the skills and qualifications most sought after by employers. Employers can gain insights into emerging technologies and trends to shape their hiring strategies, while educational institutions can align their curriculum to meet industry demands. This project will contribute to informed decision-making and facilitate better matching between job seekers and employers in the dynamic field of data science.