Exploratory Data Analysis for HR Recruitment Insights

Introduction

In the data-driven era, Human Resource (HR) departments rely heavily on data analytics to make informed decisions regarding recruitment. This project aims to analyze job market trends in the analytics industry using a large dataset scraped from Hong Kong-based recruitment platforms.

Abstract

The purpose of this project is to perform exploratory data analysis (EDA) on a job dataset to extract valuable insights that can support the HR team in understanding current hiring patterns, most sought-after job roles, required qualifications, and career levels. With the help of data visualization, the project highlights the distribution of job roles across industries and experience levels, supporting strategic HR planning.

Tools Used

- Power BI: For cleaning, transforming, and visualizing data
- M Language: To create custom date tables
- Excel: For initial data review and preprocessing (implied)
- Data Source: Multiple job listings collected across different days and combined into one comprehensive dataset

Steps Involved in Building the Project

1. 1. Data Cleaning

- - Removed unnecessary columns like “Lower Salary Range” and “Date Source”
  - Handled missing values and removed irrelevant entries like "Not Specified"
  - Replaced incorrect values (e.g., -1 experience changed to 1, standardized qualification names)

2. 2. Data Transformation

- - Changed data types (e.g., strings to date or numeric formats)
  - Created a custom Date Table using M Language for time-based analysis

3. 3. Visual Analytics

- - Created dashboards to show:
  - Job distribution across career levels (Entry, Middle, Senior)
  - Job types (Full-time, Internship, Contract, etc.)
  - Most in-demand roles (Data Scientist, Analyst)
  - Top hiring companies and their job counts
  - Qualification requirements and domain-wise job patterns

Key Insights

- Jobs Analyzed: 1,979 total jobs from 719 companies
- Most Demanded Roles: Data Scientist (1,597 jobs), followed by Data Analyst (286)
- Top Recruiters: HKT and Michael Page (25 jobs each)
- Career Levels: Middle level jobs dominate (51.24%), followed by Entry (35.22%) and Senior (13.54%)
- Preferred Qualification: Most companies seek candidates with at least a Degree
- Job Type Trends: Over 50% jobs are contract or temporary in nature
- Domain Trends: HR/Consulting has the highest number of job roles

Conclusion

The EDA project successfully provided actionable insights into the analytics job market, helping HR teams focus on in-demand roles, suitable candidate qualifications, and trending job types. These insights can be crucial for planning recruitment strategies and optimizing candidate targeting. Power BI proved to be a powerful tool for not just visual storytelling but also for effective data transformation and insight generation.