Job Market Analysis

Internship Report by Saif Patel

Introduction

This report summarizes the process of analyzing a job dataset using Tableau, focusing on uncovering trends and insights across various industries, roles, and countries. The report reflects data visualization efforts to create meaningful dashboards based on real-world job market dynamics.

Background

The dataset consists of synthetic job postings, designed to provide an opportunity to analyze trends in the global job market. Key aspects include job titles, roles, qualifications, experience, salary ranges, company sizes, and work preferences. This dataset was visualized using Tableau to extract actionable insights through 11 different tasks.

Learning Objectives

- **The goal of this project was to:**
  - Understand the relationship between job roles, titles, locations, and company attributes.
  - Apply advanced filtering and calculations to derive specific insights from the data.
  - Use Tableau’s visualization and interactivity features to build dynamic dashboards.
  - Practice skills in filtering, conditional formatting, calculated fields, and map integration.

Activities & Tasks

- The project was structured into 11 tasks, each focusing on different relationships within the data:
    1. **Relationship between Country, Job Title, and Role** – Visualization of how different countries associate with various job titles and roles.
    2. **Job Portal and Company** – Charting the connection between job portals and the companies posting jobs.
    3. **Experience, Qualification, and Skills** – Analyzing how qualifications and skills vary with experience levels.
    4. **Filtered Role and Job Posting** – Applying time and company name filters for precise analysis of job roles.
    5. **Preference and Work Type** – Analysis based on gender preferences, work type, and geographic latitude.

Activities & Tasks

6. **Company Size and Mechanical Engineer Role** – Insights on companies offering mechanical engineer roles, focusing on size and location.
7. **Top 10 Companies for Data Analyst and Data Scientist** – Discovering companies with the highest demand for these roles.
8. **Qualification and Job Title Filter for African Continent** – Filtering jobs by qualification and title, focusing on African countries.
9. **Data Science Jobs in India and Germany** – Visualizing differences in Data Science roles between two major economies, with interactive color changes.
10. **Top 5 Roles in 2023 for Interns** – Analyzing the top roles for interns in 2023.
11. **Top 20 Companies for UX/UI Designers** – Charting the companies with the highest demand for UX/UI designers.

Skills & Competencies

- This project reinforced key skills in:
  - **Data Visualization:** Transforming raw data into meaningful charts.
  - **Filter Creation:** Advanced filtering based on multiple criteria.
  - **Calculated Fields:** Using functions like DATEPART, SPLIT, and conditional logic to derive new insights.
  - **Map Integration:** Displaying geographic locations with latitude and longitude data.
  - **Time-Based Analysis:** Implementing dynamic time-based color and visibility changes.

Feedback & Evidence

Each task resulted in individual Tableau sheets, which provided evidence of successful filtering, visual representation, and task completion. Feedback from Tableau dashboards was continuously analyzed and refined, leading to the creation of an efficient reporting structure.

Challenges & Solution

- **Time Filters:** The initial issue with the HOUR function was resolved by using the DATEPART function, allowing accurate time-based filtering.
- **String Manipulation:** Issues with handling string functions like SPLIT were resolved by adjusting the input parameters and ensuring proper data type handling.
- **Complex Filtering:** Tasks requiring multiple conditions, such as filtering based on company name and geographic coordinates, were addressed by creating nested calculated fields to account for all constraints.

Outcomes & Impact

The successful completion of these tasks led to several insights:

- **Role Distribution:** Clear patterns emerged about the popularity of certain roles in specific countries.
- **Gender Preferences:** The analysis revealed industries with specific gender preferences.
- **Salary Trends:** Countries like Germany and India showed significant differences in compensation for similar roles.
- **Work Types:** A comparative understanding of full-time, part-time, and internship job offers.

This project provided practical insights into the job market, equipping stakeholders with actionable data for decision-making.

Conclusion

This report encapsulates the process of visualizing job market data using Tableau. The tasks illustrated different dimensions of job roles, company characteristics, and preferences across the globe. The use of advanced filtering and time-based interactivity allowed for highly refined insights. Tableau proved to be an invaluable tool in revealing underlying trends within the dataset, enhancing the understanding of global job market dynamics.

This report structure will give a comprehensive yet concise overview of the tasks completed, focusing on the learning and outcomes achieved through the use of Tableau. Let me know if you'd like to adjust any part of the report!