INTERNSHIP REPORT

DATA ANALYST TASK

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1. Introduction

The Real-Time Job Analytics Portal uses filters including job title, business size, credentials, work kind, and geographic distribution to present job postings in an effort to offer dynamic insights into hiring trends. In contrast to static job boards, this technology allows recruiters and job searchers to make well-informed judgments through interactive dashboards and real-time data processing.
Geolocation mapping, time-sensitive visibility, and comprehensive filtering by gender preference, experience, salary, and job portal criteria are some of the key features. The website reduces uncertainty, increases employment transparency, and offers helpful insights into market dynamics through the use of Tableau.

2. Background

The labor market is always evolving due to a combination of economic volatility, shifting industrial demands, and technological advancements. Static job advertisements without analytical information that could help users understand broader employment trends are often displayed on traditional job portals. By providing dynamic dashboards that display hiring trends according to job positions, qualifications, company size, geographic preferences, and salary norms, the Real-Time Job Analytics Portal fills this gap.
The platform enables researchers, recruiters, and job seekers to make well-informed decisions by utilizing tools like Tableau, real-time data processing, and interactive geospatial mapping. The site can better assess employment patterns thanks to advanced filtering techniques including preference-based job recommendations and time-sensitive visibility conditions.

Through the use of big data techniques, visual analytics, and real-time processing, this project transforms job advertisements into useful information that enables users to confidently and easily navigate the constantly shifting job market.

3. Learning Objectives

The goal of this program is to equip students with the data analytics and visualization skills they need to assess job market trends in real time.
1. Students can create data preparation techniques for trustworthy insights by working on the Real-Time Job Analytics Portal.
2. Develop your Tableau abilities: Make dynamic dashboards using geospatial mapping and filtering.

3. To obtain location-based job insights, apply geospatial analytics with latitude and longitude data.
4. Conditionally render graphs according to certain time periods by utilizing time-sensitive visualization.

5. Examine hiring trends by nation, job role, and industry.
6. Use structured datasets for ETL procedures to enhance database administration.
7. Develop analytical and problem-solving abilities by converting intricate employment data into insightful commercial information.

Through practical experience with real-world business analytics, these goals enable them to develop strong technical skills while handling intricate job market data. By analyzing labor patterns and recruitment trends, interns may gain important insights into strategic hiring decisions. Through this practical experience, students may effectively contribute to workforce planning, recruiting analysis, and data-driven decision-making in professional contexts by bridging the gap between academic learning and industry requirements.

4. Activities and Tasks

Tasks:

1. Display a chart showing the relationship between Job Portal and Company.

2. Create a chart depicting the correlation between Country, Job Title, and Role.

3. Show a chart filtered for African countries with qualifications (B.Tech, M.Tech, PhD), full-time jobs, job titles starting with 'D', preference as Male, company size > 80,000, contact persons starting with 'A', and job portal as Indeed; this chart is visible only between 3 PM to 6 PM IST and includes clickable latitude/longitude to open a map.

4. Render a chart between Preference and Work Type for Intern jobs where latitude < 10, country does not start with A–D, job title has ≤10 characters, and company size < 50,000; display this chart only from 3 PM to 5 PM IST.

5.Generate a chart of top 10 companies with the most Data Engineer roles and Data Scientist job titles, where countries are non-Asian and don’t start with C, latitude < 10, preference is Female, qualification is B.Tech, and job posting dates are between 01/01/2023 to 06/01/2023; show this only from 3 PM to 5 PM IST.

6. Draw a chart between Company Size and Company Name for Mechanical Engineer roles with experience > 5 years, Asian countries, salary > $50k, Work Type as Full-time or Part-time, preference Male, and applied via Idealist; display only from 3 PM to 5 PM IST.

7. Create a country-colored chart (Orange for India, Green for Germany) with qualification as B.Tech, work type as Full-time, experience > 2 years, job titles: Data Scientist, Art Teacher,

Aerospace Engineer, salary > $10k, job portal as Indeed, preference Female, and posting date < 08/01/2023, visible only from 3 PM to 5 PM IST

Activities:

1. Data Collection and Cleaning: Collecting job market data, removing inconsistencies, and standardizing analysis formats.
2. Developed interactive Tableau dashboards with dynamic filters based on job role, company size, and preferences.
3. Geospatial Visualization involves mapping job locations using latitude and longitude data and integrating interactive maps.
4. Time-Based Filtering allows for focused analysis by only displaying specific graphs between 3 PM and 6 PM IST.
5. Advanced Analytics and Insights - Tracking hiring trends by qualifications, salary ranges, industry preferences, and job type.
6. Validation and testing ensure accurate, responsive, and real-time updates for dashboard components.
7. Compilation of Final Report: Document internship results, methodology, and insights.

5. Skills and Competencies

Technical Skills:

1. Data cleaning with Excel and Tableau Prep.
2. Create advanced Tableau dashboards with multi-field filters.
3. Using conditional logic and calculated fields
4. Time-based visualizations with time zone support
5. Geospatial mapping with latitude and longitude.

Analytical Skills:

1. Interpreting trends and user behavior through charts.
2. Building dashboards that are aligned with business logic.
3. Designing queries to meet complex filtering requirements

Soft skills:

1. Task scheduling and deadline management.
2. Communication using written documentation and visuals.
3. Adaptability in addressing dashboard logic issues.

6. Feedback and Evidence

Feedback: - Excellent dashboard layout with real-time metrics and multi-layered filtering.
By clicking on latitude/longitude coordinates, users can utilize geospatial integration to pinpoint precise work locations.

Relevance is increased by time-based filtering, which restricts visibility to 3 PM to 6 PM IST.
Advanced Tableau capabilities, such as dynamic data analysis, industry trends, and interactive elements, were implemented.

Supporting data: Dashboard images display hiring trends and employment trends.
Validation tests to guarantee precise filtering and real-time updates.
Mentors and internships that have been approved foster skill growth and project success.

7. Challenges and Solutions

- Calculated fields and parameters are used to solve complex filter combinations.
- Time-Based Graph Visibility: Calculated fields were created using system time.
- Geospatial Integration: Action filters for latitude and longitude were applied.

8. Outcomes and Impact

The development of interactive Tableau dashboards with advanced filtering was one of the primary outcomes.
Visibility was changed to be time-based (3 PM to 6 PM IST).
Better decision-making as a result of current employment market data.

Impact: - Data-driven hiring: Helps hiring managers and candidates make informed choices.

Scalable and user-friendly: Job analytics have been made more accessible by simplifying them.
Professional growth: Enhanced capacity for data visualization and analysis for career advancement.

9.Conclusion

I created the Real-Time employment Analytics Portal during my internship, which significantly improves employment market analysis through interactive dashboards, dynamic filtering, and geospatial mapping. Through the integration of real-time job analytics and time-sensitive visualizations (active between 3 PM and 6 PM IST), it empowers recruiters and job seekers to make informed decisions. This real-world project has increased my understanding of analytics and job trends and enhanced my data visualization skills.