

INTRODUCTION

By visualising job posts based on many parameters, such as job title, firm size, qualifications, work kind, and geographic distribution, the Real-Time Job Analytics Portal seeks to offer dynamic insights into recruiting trends. In contrast to static job boards, this system incorporates interactive dashboards and real-time data processing to assist recruiters and job searchers in making well-informed selections.

Geospatial mapping, time-sensitive visibility, and sophisticated filtering according to gender preference, experience, salary, and job portal requirements are some of the key characteristics. The portal provides useful insights into market dynamics, lowers uncertainty, and improves employment transparency by utilising Tableau.

BACKGROUND

Because of changing business demands, economic volatility, and technology breakthroughs, the labour market is always changing. Conventional job boards frequently display static listings devoid of analytical information that can aid users in comprehending more general employment patterns. By offering dynamic dashboards that illustrate hiring trends according to job positions, qualifications, firm size, geographic preferences, and salary standards, the Real-Time Job Analytics Portal fills this gap.

The platform helps researchers, recruiters, and job seekers make well-informed decisions by utilising tools such as Tableau, real-time data processing, and interactive geospatial mapping. The portal's ability to analyse employment patterns is improved by sophisticated filtering approaches, such as preference-based job recommendations and time-sensitive visibility conditions.

This project turns job posts into actionable insights by combining big data approaches, visual analytics, and real-time processing. This ensures that users can confidently and clearly navigate the constantly shifting employment scene.

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LEARNING OBJECTIVES

The goal of this project is to give students the fundamental data analytics and visualisation abilities they need to use real-time data to analyse trends in the labour

1. Develop data preparation procedures — Clean and arrange raw job data for correct insights.
2. Enhance Tableau skills — Build interactive dashboards with dynamic filtering and geospatial mapping.
3. Use time-sensitive visualisation: Conditionally render graphs according to predetermined time periods.
4. Recognise the dynamics of the labour market by examining hiring trends in various sectors, occupations, and nations.

5. Use latitude and longitude data to provide location-based job insights by integrating geospatial analytics.

6. Strengthen database management - Work with structured datasets to improve ETL workflows.

7. Develop analytical thinking and problem-solving skills by converting intricate work datasets into insightful business information.

These goals guarantee hands-on experience with real-world business analytics, assisting students in developing technical proficiency relevant to labour market analysis and recruitment strategy.

ACTIVITIES AND TASKS

A real-time job analytics portal with interactive dashboards and sophisticated data filtering algorithms is being designed and implemented as part of this project. The following tasks and activities were completed:

1.Data Collection and Cleaning: Compiling information on the labour market, removing discrepancies beforehand, and standardising formats for analysis.

2. Dashboard Development: Creating dynamic filters for employment roles, company sizes, and preferences in interactive Tableau dashboards.

3. Geographic Visualisation: Using latitude and longitude information to map work locations while using interactive, clickable maps.

4. Time-Based Filtering: For targeted analysis, visibility criteria are implemented such that particular graphs only show up between 3 and 6 PM IST.

5. Advanced Analytics and Insights: Examining hiring patterns according to job types, industry preferences, salary ranges, and qualifications.

6. Testing and Validation: Making sure that every dashboard component is accurate, responsive, and updated in real time.

7. Final Report Compilation — Documenting results, methodology, and insights obtained from the internship experience.

SKILLS AND COMPETENCIES

Through the Real-Time Job Analytics Portal project, various technical and analytical competences were built, boosting both data visualization expertise and problem-solving skills:

1. Technical Skills

- Data Preprocessing & ETL Pipelines – Cleaning, structuring, and preparing large datasets for analysis.
- Tableau Dashboard Development: Creating dynamic dashboards with time-sensitive visualisations, geospatial mapping, and dynamic filters.
- Geospatial Analytics: Using latitude-longitude mapping to track the position of jobs in real time.

With time-based visualisation, conditional visibility is implemented such that charts only show up within designated time windows (3 PM to 6 PM IST).

Managing multi-layered criteria, including qualifications, work kind, gender preference, company size, wage benchmarks, and job portals, is known as advanced filtering logic.

2. Capabilities for Analysis and Problem-Solving

- Trend Analysis & Market Insights: Assessing hiring trends in various sectors and geographical areas.
- Using Data to Make Decisions: Converting intricate job datasets into insights that employers and job searchers can use.

1. Optimisation Techniques: Using organised queries and effective data processing, dashboard performance can be improved.

3. Career Advancement

- Project Collaboration: Coordinating with mentors, supervisors, and industry experts while working in an interdisciplinary team.
- Communication & Reporting: recording results, delivering them to stakeholders, and honing technical justifications.

FEEDBACK AND CONVENIENCE

Important comments:

Sturdy dashboard design with real-time information and multi-layered filtering.

- Users can click latitude and longitude to find precise employment locations thanks to geographic integration.
- Time-based filtering improves relevance by guaranteeing visibility only from 3 to 6 PM IST.
- Enhanced Tableau implementation featuring dynamic analysis, industry-specific trends, and interactive features.

Supporting Data:

Dashboard images showing hiring trends and employment trends.

- Validation tests verify dynamic updates and precise filtering.
- Mentor endorsement and internship approval, which support skill development and project success.

OUTCOMES AND IMPACT

1. One of the main results was the creation of interactive Tableau dashboards with sophisticated filtering.
 - Time-based visibility was introduced (3 PM to 6 PM IST).
 - Better decision-making thanks to up-to-date labour market information.
2. **Effect:**
 - Data-driven recruitment: Assists recruiters and job seekers in making well-informed decisions.
 - User-friendly and scalable: Job analytics have been simplified for wider accessibility.
 - Professional development: Improved analytical and data visualisation abilities for career progression.

CONCLUSION

The Real-Time employment Analytics Portal uses dynamic filtering, geospatial mapping, and interactive dashboards to improve employment market analysis. The technology streamlines employment trends and enhances decision-making for recruiters and job searchers by including real-time job analytics and time-sensitive visualisations (3 PM to 6 PM IST).