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Internship Report

Introduction

This report provides an overview of my internship experience, detailing the objectives, activities, and outcomes achieved during the tenure. The internship focused on leveraging data analytics and visualization tools to derive insights from social media data, specifically Twitter analytics. The aim was to improve decision-making processes through advanced visualization techniques and dashboard implementations.

Background

The internship involved working on a data analytics project that required analysing Twitter engagement metrics to generate actionable insights. Tasks included creating complex visualizations and implementing conditional logic to improve dashboard usability. The use of tools such as Power BI and Python was integral to achieving the objectives.

Learning Objectives

- Develop proficiency in data visualization tools like Power BI.
- Understand and analyse Twitter engagement metrics.
- Apply conditional logic to enhance visualization relevance.
- Gain experience in report writing and presentation.

Activities and Tasks

1. **Pie Chart for Click Proportions:**
    - Created a pie chart representing the proportion of URL clicks, user profile clicks, and hashtag clicks for tweets with more than 500 impressions.
    - Implemented drill-down functionality to view specific click types for each tweet.
2. **Scatter Chart for Media Engagements:**
    - Plotted a scatter chart analysing the relationship between media engagements and media views for tweets with more than 10 replies.
    - Highlighted tweets with an engagement rate above 5%.
    - Applied time-based visibility (6 PM to 11 PM IST) and specific tweet criteria (odd date, word count above 50).
3. **Comparison Visualization:**
    - Developed a visualization comparing replies, retweets, and likes for tweets with media engagements above the median value.

- Incorporated filters for June to August 2020, odd tweet dates, even media views, character count above 20, and excluded words containing the letter 'S'.
- Applied conditional time-based visibility (3 PM to 5 PM IST and 7 AM to 11 AM IST).

Skills and Competencies

- **Technical Skills:** Data visualization, Power BI, Python scripting, and advanced data filtering techniques.
- **Analytical Skills:** Identifying patterns and deriving insights from complex datasets.
- **Problem-Solving:** Addressing challenges related to conditional logic and dynamic visualizations.

Feedback and Evidence

Feedback from mentors highlighted the effectiveness of my visualizations in enhancing decision-making processes. Screenshots of dashboards and code snippets were shared to demonstrate the results achieved.

Challenges and Solutions

1. **Challenge:** Implementing time-based visibility for graphs.
    - **Solution:** Utilized Power BI's DAX functions and custom scripts to apply conditional logic based on system time.
2. **Challenge:** Filtering tweets based on multiple criteria.
    - **Solution:** Applied advanced filtering and calculated columns in Power BI to meet the requirements.

Outcomes and Impact

The internship enabled the creation of dynamic and user-friendly dashboards that provided actionable insights into Twitter engagement. These dashboards improved the efficiency of data analysis and decision-making processes.

Conclusion

The internship was a valuable learning experience, enhancing my technical and analytical skills. The knowledge gained in data visualization and analytics will be instrumental in my future endeavours. This project also highlighted the importance of precision and creativity in addressing complex analytical challenges.