

Internship Report: Data Analytics & Visualization Using Power BI

1. Introduction

This report documents my internship experience as a Data Analyst, focusing on a real-world project involving Twitter analytics using Power BI. The internship provided practical insights into data visualization, business intelligence, and analytical storytelling through dashboard design.

2. Background

As a B.Tech student in Computer Science and Engineering at Aurora's Technological and Research Institute, I have cultivated a strong base in programming and problem-solving. This academic foundation equipped me to take on the role of a Data Analyst intern, where I applied my knowledge in real-world settings. During the internship, I worked extensively with Twitter datasets, leveraging Power BI to develop interactive dashboards, implement advanced filters, and perform data-driven analyses. My familiarity with programming languages such as HTML, and CSS(Tailwindcss), Python, Javascript(Node, Express) helped me understand and execute tasks efficiently in this technical environment.

3. Learning Objectives

- Understand social media metrics and their relevance in data analytics.
- Learn Power BI functionalities, including DAX, data modeling, and interactive visuals.
- Apply filters, conditional logic, and business rules to data.
- Communicate insights through dashboards effectively.

4. Activities and Tasks

During my internship, I worked on building a Twitter Analytics Dashboard using Power BI. My main tasks included:

- Filtering tweets based on time, date, and content conditions

- Creating different types of charts like bar charts, scatter plots, and dual-axis visuals
- Comparing engagement rates of tweets with specific features like app opens or media views
- Highlighting top-performing tweets based on likes, replies, and retweets
- Applying DAX functions to implement custom logic and conditions
- Designing visuals that only show up at specific times of the day

These tasks helped me understand how to clean, filter, and visualize data effectively for analysis.

5. Skills and Competencies

- Power BI Dashboard Development
- Data Analysis Expressions (DAX)
- Conditional Filtering and Logic
- Time-based Data Filtering
- Visual Analytics and Storytelling
- Data Cleaning and Text Processing

6. Feedback and Evidence

The internship supervisor appreciated the accuracy and business relevance of the dashboards. Screenshots of all dashboards and filters, DAX formulas, and visual configurations were submitted as evidence.

7. Challenges and Solutions

- **Challenge:** Applying time-based filters dynamically in Power BI dashboards.
 - **Solution:** Used DAX logic with NOW() and HOUR() functions to implement visibility rules.
- **Challenge:** Implementing multi-condition filters (like excluding words with specific characters).

- **Solution:** Used CONTAINSSTRING, NOT, and UPPER DAX functions to detect and exclude tweets based on specific letters.

8. Outcomes and Impact

This internship helped me understand the nuances of data filtering and business rules in analytics. I learned to present complex data in interactive, user-friendly formats and discovered how to derive insights that could influence digital marketing strategies.

9. Conclusion

The internship offered a rich learning experience that enhanced both my technical and analytical skills. It gave me hands-on exposure to tools and methods that are highly relevant in the data analytics industry. I feel more confident and prepared to take on professional data analysis roles in the future.