**📑 Report: College Event Feedback Analysis**

**Data Science & Analytics Task 3 – By Future Interns**

**1. Introduction**

College events and classroom activities such as workshops, seminars, and cultural events are vital in enhancing student engagement and learning. Collecting and analyzing feedback is essential to understand student satisfaction and identify improvement areas.

This project applies **data science and natural language processing (NLP)** techniques to student feedback data (ratings and comments) collected from surveys. Using tools like **Google Colab, pandas, seaborn, and TextBlob**, we transformed raw survey data into **actionable insights** for improving future events and academic experiences.

**2. Objectives**

* Clean and prepare student feedback data for analysis.
* Analyze satisfaction ratings on a **1–5 scale**.
* Perform **sentiment analysis** on student comments.
* Visualize trends with charts and word clouds.
* Provide evidence-based recommendations to improve campus experiences.

**3. Tools & Technologies**

| **Tool / Library** | **Purpose** |
| --- | --- |
| **Google Colab** | Cloud-based environment for coding |
| **pandas** | Data manipulation & cleaning |
| **matplotlib / seaborn** | Data visualization |
| **TextBlob / VADER** | Sentiment analysis (NLP) |
| **WordCloud** | Highlight common words in comments |

**4. Methodology**

1. **Data Collection**: Student survey responses exported from Google Forms as CSV.
2. **Data Cleaning**: Removal of duplicates, handling missing values, formatting ratings.
3. **Exploratory Analysis**: Frequency distribution of ratings, average scores, question-level performance.
4. **Sentiment Analysis**: Applied polarity scoring to classify comments as **Positive, Neutral, or Negative**.
5. **Visualization**: Created histograms, bar charts, and word clouds to highlight patterns.
6. **Interpretation**: Mapped results into key findings and actionable recommendations.

**5. Results & Findings**

**5.1 Distribution of Ratings**

* Most students rated events between **3 and 5**, with **4 being the most common score**.
* Very few gave ratings below 3, suggesting overall positive satisfaction.

**Summary of Responses (Weighted Categories):**

* Weightage 1: 306 responses
* Weightage 2: 689 responses
* Weightage 3: 1,472 responses
* Weightage 4: 2,948 responses
* Weightage 5: 2,885 responses

**5.2 Sentiment Analysis of Comments**

* **Positive Comments:** ~350
* **Neutral Comments:** ~230
* No strong negative comments were detected, indicating a generally supportive student perspective.

**5.3 Word Cloud – Positive Feedback**

The most frequent words included **“teachers”**, **“learning process”**, **“able”**, **“well prepared”**, and **“communicate”**.

This indicates that **teaching quality, communication, and preparation** were highly appreciated by students.

**5.4 Top-Scoring Questions (Average Rating = 5.0)**

Some examples of highly rated aspects include:

* *“How well did the teachers prepare for the classes?”*
* *“How much of the syllabus was covered in the class?”*
* *“Teachers illustrate the concepts through examples and applications.”*
* *“Teachers inform you about expected competencies in the course.”*
* *“Fairness of the internal evaluation process by teachers.”*

These findings show strong approval of **teacher preparation, fairness, and concept delivery**.

**6. Recommendations**

* **Sustain High Teaching Standards**: Maintain teacher preparedness, fairness in evaluations, and clear communication.
* **Enhance Student Engagement**: More interactive and application-based sessions (similar to those that scored 5.0).
* **Focus on Neutral Feedback Areas**: Address factors leading to neutral responses (e.g., logistics, time management).
* **Continuous Feedback Loop**: Implement regular surveys and feedback reviews to monitor progress.

**7. Skills Gained**

* Data cleaning and analysis using **pandas**.
* Text-based sentiment classification with **TextBlob**.
* Visualization with **matplotlib and seaborn**.
* Word cloud generation for text insights.
* Translating data into **practical campus recommendations**.

**8. Conclusion**

The analysis revealed that students are **highly satisfied with teaching quality, syllabus coverage, and teacher preparedness**. While most responses were positive, neutral sentiments highlight opportunities to refine event logistics and communication.

Overall, the project demonstrated how **data science and NLP can help institutions make data-driven improvements** in both academic and extracurricular activities.

✅ **Final Deliverables:**

* Clean & well-documented Jupyter/Colab notebook (with code, charts, and analysis).
* This **report summarizing insights and recommendations**.