📊 My Journey Analyzing Student Feedback – Future Interns Data Science & Analytics Task 3

Text:

I recently completed **Task 3** of my Data Science & Analytics Internship at Future Interns — and here's a detailed look at what I worked on, what I learned, and the final outcome.

✅ ◆ Project Overview

The goal of this task was to analyze **student feedback data** collected after college events or courses.
The dataset contained numerical ratings students gave to various teaching aspects such as:

- Subject expertise
- Ability to explain concepts clearly
- Use of presentations
- Structuring of the course
- Degree of difficulty of assignments
- Support for students going above and beyond
- Course recommendation based on relevance

Although the dataset didn't include free-text comments, it offered valuable numeric insights into student satisfaction.

📊 ◆ Steps in my analysis

Here's how I structured the entire project step by step:

1️⃣ Data Cleaning & Preparation

- Loaded the dataset in Google Colab using pandas
- Dropped unnecessary columns like `'Unnamed: 0'` (auto-generated index)
- Ensured all rating columns were numeric, converting them if necessary
- Checked for missing values (none were found)

2️⃣ Data Exploration

- Viewed the first few rows and descriptive statistics
- Checked the unique values and ranges to ensure data quality
- Calculated the overall average rating to get a quick sense of satisfaction

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3️⃣ Mini Dashboard & Visualizations

To make the analysis clear and visually appealing, I created a mini dashboard inside the notebook with:

- 📊 **Horizontal bar chart**: showing average rating per feedback question
- 🔥 **Correlation heatmap**: showing how ratings across aspects relate to each other
- 🎁 **Histogram**: distribution of ratings for “Degree of difficulty of assignments”
- 🎻 **Violin plot**: visualizing distribution and density of ratings across questions
- 🎹 **Table**: summarizing average ratings in tabular form

4️⃣ Key Metrics Section

Calculated:

- Highest rated aspect (e.g., *Explains concepts in an understandable way*)
- Lowest rated aspect (e.g., *Degree of difficulty of assignments*)
- Overall average rating across all questions

This helped highlight which aspects students valued most and which might need attention.

5️⃣ Sentiment Analysis (and why it couldn’t be applied)

Since the dataset didn’t include open-ended text comments, direct sentiment analysis using NLP tools like TextBlob wasn't possible.
Instead, I noted that high average ratings still suggest overall positive sentiment.
As a recommendation, I suggested that future surveys should include a free-text comment section to enable qualitative sentiment analysis and word clouds.

✅ ◆ Final Summary & Recommendations

- Students gave consistently high ratings, showing strong satisfaction across most aspects.
- Slightly lower scores on "Degree of difficulty of assignments" indicate a potential area for improvement.
- Including text comments in future surveys would provide richer qualitative insights to complement numeric ratings.

🛠️ ◆ Tools & Libraries Used

- Google Colab
- pandas
- matplotlib & seaborn for visualizations

📌 ◆ Outcome

All analysis, visualizations, and recommendations were consolidated into a well-documented Google Colab notebook, which I uploaded to my public GitHub repository:

`FUTURE_DS_03`

This notebook acts as a mini report and dashboard showing both visual and textual insights.

⭐ ◆ What I learned

- The importance of data cleaning and exploring data before analysis
- How to create clear and insightful visualizations using matplotlib and seaborn
- How to structure a notebook so it reads like a report
- The value of even simple numeric data in understanding student sentiment
- The importance of communicating findings clearly using markdown and visuals

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✔ ◆ Next steps

- Share my GitHub repo and notebook as part of my internship deliverables
- Post about this project on LinkedIn to document my learning journey
- Continue to the next tasks in the internship to explore new datasets and domains

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🙏 *Thank you for reading!*

If you'd like to see the notebook, feel free to check the `.ipynb` file in my repository or connect with me here on LinkedIn.

🚀 *Project done as part of the Data Science & Analytics track at Future Interns.*
