STUDENT FEEDBACK ANALYSIS

An NLP-Based Analysis of Student Survey Data

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FUTURE INTERNS

OBJECTIVE

- Analyze student feedback collected after college events such as:
  -Tech fests
  - Workshops
  -Cultural activities
- Understand overall student satisfaction using:
  - Rating-based analysis
  -Sentiment analysis using NLP
- Identify:
  -Satisfaction patterns
  -Emotional tone in written feedback
  -Strengths and areas for improvement
- Provide actionable, data-driven recommendations

DATASET OVERVIEW

DATASET USED:

- Student Feedback Survey Responses (CSV)
- Collected from students after attending college events
- Includes:

- Quantitative data (ratings)
- Qualitative data (comments)

DATASET DESCRIPTION:

- Represents real student perceptions
- Suitable for satisfaction analysis and sentiment analysis using NLP
- Enables comparison across different feedback parameters

DATA CLEANING

- Removed unnecessary column (Unnamed: 0)
- Verified missing values (no null values found)
- Ensured all rating columns were numeric
- Converted dataset from wide format to long format
- Enabled question-wise comparison of ratings

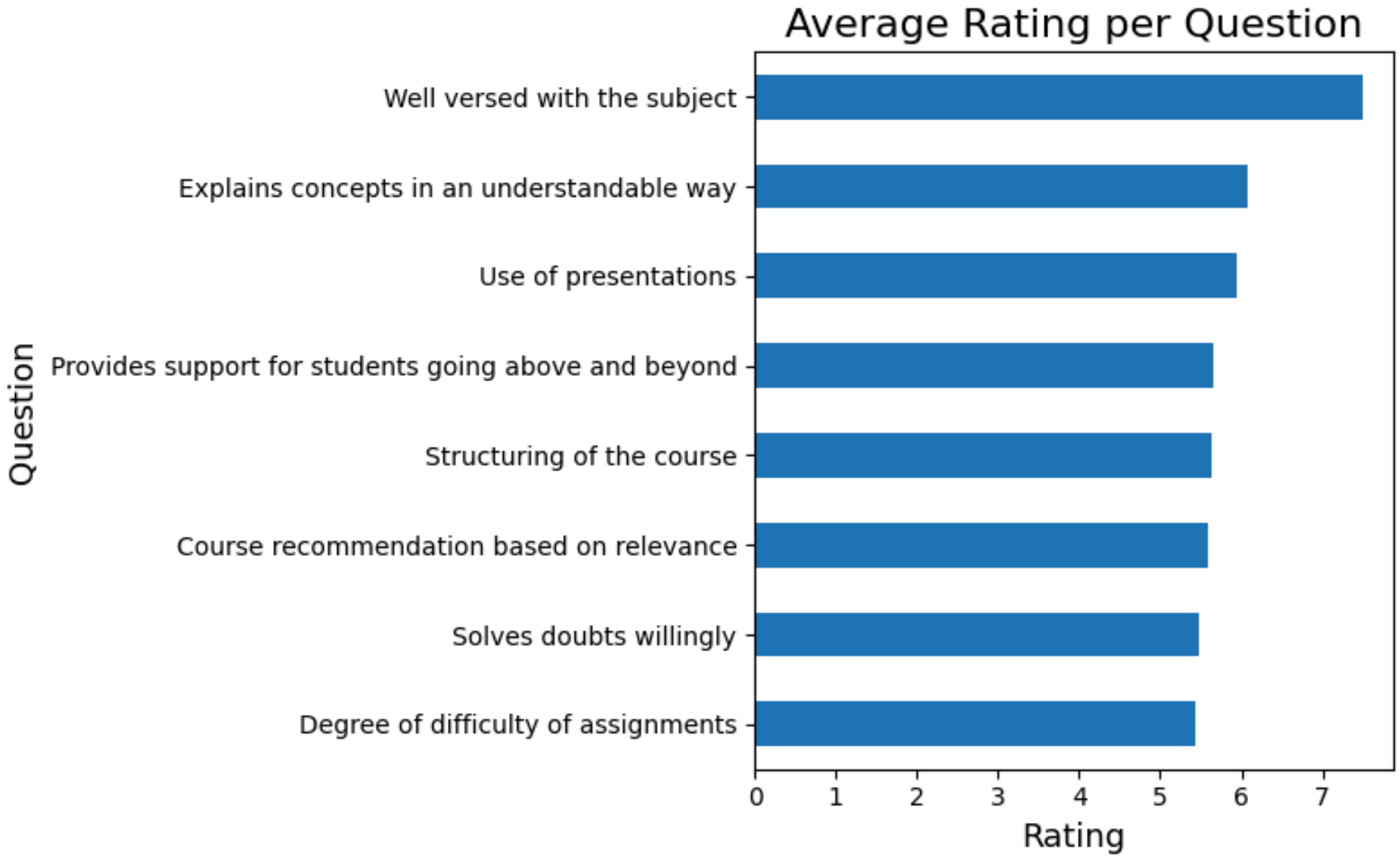
A sample of the dataset is attached below :

	Student ID	Well versed with the subject	Course recommendation based on relevance
0	340	5	8
1	253	6	9
2	680	7	1
3	806	9	6
4	632	8	9

RATING ANALYSIS

Average Rating Analysis:

- Calculated average rating for each feedback parameter
- Purpose: Identify strengths and improvement areas



Key observations:

- Highest rating: Well versed with the subject (~7.5)
- Strong performance in:
  - Explaining concepts clearly
  - Use of presentations
- Relatively lower ratings for:
  - Degree of difficulty of assignments
  - Solving doubts willingly

INSIGHTS FROM RATING ANALYSIS

- Students are highly satisfied with subject expertise

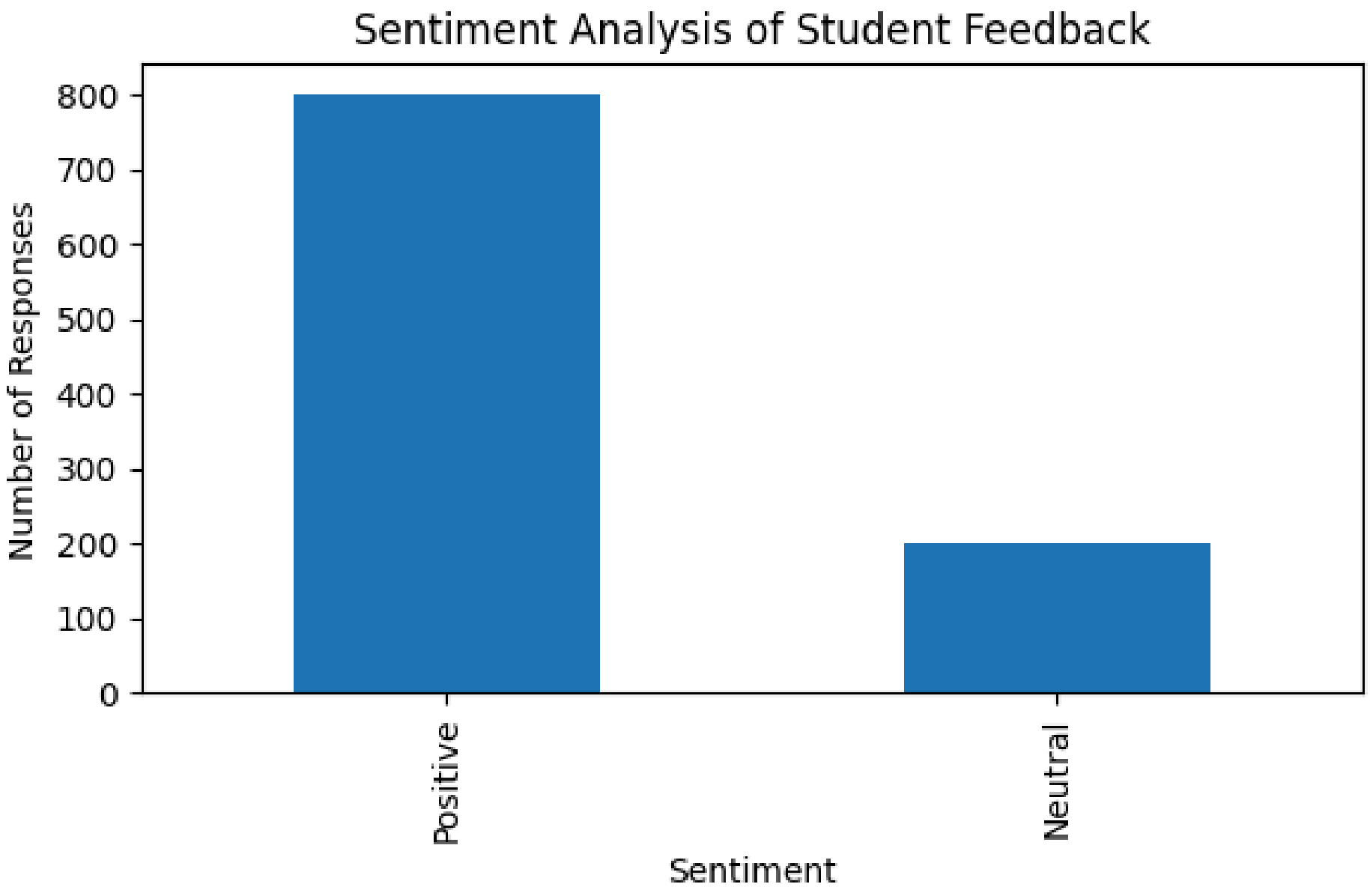
- Teaching methods and presentation usage are effective

- Some scope for improvement in:
  -Assignment difficulty balance
  -Student–faculty interaction for doubt resolution

SENTIMENT ANALYSIS

- Applied NLP-based sentiment analysis on student comments
- Classified feedback into:
  - Positive
  -Neutral

- Result:
  - Student feedback is predominantly positive
  - Neutral responses form a minor share
  - Overall sentiment indicates high satisfaction with the course/events



KEY FINDINGS

- Strong subject knowledge is the biggest strength
- Overall student sentiment is positive
- Feedback indicates effective teaching and course structure
- Improvements can enhance student engagement further

RECOMMENDATIONS

- Maintain strong subject delivery and presentation quality
- Review assignment difficulty for better balance
- Encourage more interactive doubt-solving sessions
- Regularly analyze student feedback to guide improvements

TOOLS AND TECHNOLOGIES

🛠️ Google Colab – Online Python environment
🛠️ Pandas – Data cleaning & analysis
🛠️ Matplotlib / Seaborn – Data visualization
🛠️ TextBlob – Sentiment analysis

CONCLUSION

- Combined rating-based analysis with NLP sentiment analysis
- Identified key patterns in student satisfaction
- Highlighted strengths and areas for improvement
- Demonstrated how feedback can support data-driven decisions

- Helps enhance the quality and effectiveness of future courses and events.

Scan to view complete analysis notebook: