SENTIMENT ANALYSIS OF STUDENT FEEDBACK

Leveraging NLP for Academic Insights

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PROJECT OVERVIEW

- This project implements a sentiment analysis system to evaluate student feedback using NLP techniques.

- Key components include:
  - Data generation with the Faker library
  - Text preprocessing with spaCy
  - Sentiment classification using VADER
  - Data visualization via Power BI

SYSTEM WORKFLOW

- Text Preprocessing: Tokenization, lemmatization, and stopword removal
- Sentiment Classification: VADER for polarity analysis
- Data Visualization: Power BI dashboard for insights

TECHNICAL STACK

- spaCy for text preprocessing
- VADER for sentiment classification
- Power BI for interactive data visualization

DASHBOARD DESIGN

- Single-page layout to reduce cognitive load
- Sentiment distribution, course-level breakdowns, and delivery mode comparisons
- Chronological list of recent student feedback

VALUE TO ACADEMIC LEADERS

- This system offers:
  - Quick and actionable insights from student feedback
  - Interactive visualizations for better understanding of course sentiment
  - A framework for ongoing assessment and curriculum improvements

CHALLENGES AND SOLUTIONS

- Initial complex database setup was simplified to .csv exports
- Ensured data preprocessing for accurate sentiment analysis
- Optimized visualization for clear insights

CONCLUSION

- This project provides a flexible, repeatable framework for analyzing student feedback.
- It enables academic leaders to make data-driven decisions and continuously improve the student experience.

NEXT STEPS / FUTURE ENHANCEMENTS

- Integrate with real student feedback data
- Expand sentiment analysis capabilities
- Explore more advanced NLP techniques for deeper insights