# SENTIMENT ANALYSIS PRESENTATION

OBJECTIVE: ANALYZING STUDENT FEEDBACK SENTIMENTS AND IDENTIFYING COMMON TOPICS

# **STEP 1: DATA PREPARATION**

- Loaded the dataset 'Al\_Engineer\_Dataset\_Task\_1.xlsx'
- Dropped rows with missing participant responses

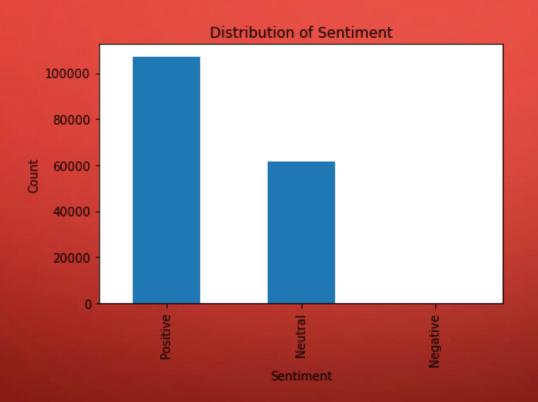
# **STEP 2: TEXT PREPROCESSING**

• Removed punctuation, converted text to lowercase, and tokenized text

# **STEP 3: SENTIMENT ANALYSIS**

- Utilized TextBlob library to perform sentiment analysis
- Categorized sentiments as Positive, Neutral, or Negative
- Result: Sentiment Distribution
- Positive: 63.44%
- Neutral: 36.50%
- Negative: 0.06%
- Interpretation: Most feedback comments are Positive, while a smaller portion is Neutral, and very few are Negative.

# **STEP 4: VISUALIZE SENTIMENT DISTRIBUTION**



## **STEP 5: TOPIC MODELING**

- Vectorized preprocessed text using CountVectorizer
- Applied Latent Dirichlet Allocation (LDA) for topic modeling
- Identified topics and keywords within the feedback
- Result: Topics and Keywords
- Topic 1: ['disagree', '[..., 'شكرا', شكرا', الشكرا
- Topic 2: ['strongly', 'disagree', 'na', ...]
- Topic 3: ['agree', 'strongly', 'thankz', ...]
- Topic 4: ['course', '[...,'من', امن', المنا.
- Topic 5: ['neutral', 'good', 'ok', ...]
- Interpretation: Topics have been identified with associated keywords, representing different aspects mentioned in the feedback

## **STEP 5: ANALYSIS AND RECOMMENDATIONS**

#### **Sentiment Analysis Analysis:**

#### Sentiment Distribution:

• Positive: 63.44%

Neutral: 36.50%

Negative: 0.06%

Analysis:

#### 1. Overwhelmingly Positive Sentiment:

- 1. The majority of feedback comments express positive sentiment (63.44%).
- 2. This indicates a high level of satisfaction among students, which is a positive aspect of the courses.

#### 2. Considerable Neutral Sentiment:

- 1. A significant portion of feedback is neutral (36.50%).
- 2. While neutrality is not inherently negative, it suggests that some comments lack strongly expressed sentiments.
- 3. Further investigation is needed to understand the specific aspects driving neutrality.

#### 3. Rare Negative Sentiment:

- 1. Negative sentiments are extremely rare (0.06%).
- 2. While this is a positive sign, it's essential to address any issues mentioned in negative comments promptly.

#### Recommendations:

#### 1. Leverage Positive Sentiments:

- 1. Celebrate and reinforce the aspects that receive positive feedback.
- 2. Share positive feedback with instructors to boost motivation and morale.

#### 2. Explore Neutral Sentiments:

- 1. Investigate comments with neutral sentiments to uncover the reasons for neutrality.
- 2. Encourage students to provide more detailed feedback to better address neutrality areas.

#### 3. Address Negative Feedback:

- 1. Even though negative feedback is rare, it should not be overlooked.
- 2. Identify the issues mentioned in negative comments and take appropriate corrective actions.

### **Topic Modeling Analysis:**

- Topic 1: ['disagree', ' [... ,' شكرا', ...]
- Topic 2: ['strongly', 'disagree', 'na', ...]
- Topic 3: ['agree', 'strongly', 'thankz', ...]
- Topic 4: ['course', ' [... ,'من', الفي', 'من'
- Topic 5: ['neutral', 'good', 'ok', ...]

#### **Analysis:**

#### 1. Topic 1 (Mixed Sentiments):

- 1. Topic 1 appears to contain keywords related to disagreements or mixed sentiments.
- 2. Understanding the context of disagreements is essential to address concerns.

#### **2.** Topic 2 (Strong Disagreements):

- 1. Topic 2 seems to include strong disagreements and potentially unclear feedback.
- 2. Further exploration is needed to identify the root causes of strong disagreements.

#### 3. Topic 3 (Agreement and Appreciation):

- 1. Topic 3 has keywords related to agreement and appreciation.
- 2. This topic may highlight areas that are well-received by students.

#### 4. Topic 4 (Course-Related):

- 1. Topic 4 appears to be related to the course itself and may contain positive feedback.
- 2. Analyzing this topic can reveal what aspects of the course receive positive feedback.

#### **5.** Topic 5 (Neutrality or Mild Positivity):

- 1. Topic 5 contains words indicating neutrality or mild positivity.
- 2. Further analysis can help identify the specific aspects associated with this topic.

#### Recommendations:

#### 1. Detailed Topic-Specific Analysis:

- 1. Conduct in-depth analyses of each topic to understand the specific aspects of courses mentioned.
- 2. Determine whether each topic aligns with positive, neutral, or negative sentiments.

#### 2. Engage with Topics 1 and 2:

- 1. Address concerns and issues mentioned in Topics 1 and 2, as they may contain negative sentiments.
- 2. Seek clarification from students who provided mixed or unclear feedback in Topic 2.

#### **3.** Leverage Positive Aspects in Topic 3:

- 1. Explore Topic 3 to understand what aspects of the courses receive agreement and appreciation.
- 2. Consider replicating successful practices in other courses.

#### 4. Encourage Clarity:

- 1. Encourage students to provide clear and detailed feedback to facilitate improvements.
- 2. Address any misunderstandings or confusion in the feedback process.

# **CONCLUSION:**

- The majority of feedback is positive, indicating overall satisfaction.
- Specific topics have been identified for further analysis.
- Actionable recommendations will help enhance the courses based on student feedback.