Project: Kid-Safe Text-Mood Detector (Sentiment Analysis)

Age Group: 12–16 years , Duration: 60 Minutes

Topic: Build a Mood2Emoji App: Introduction to Text Classification

Goals

1. Students will understand how computers quantify human emotion into a **Polarity Score**.
2. Students will explain the **rule-based logic** the app uses to classify mood.
3. Students will identify one **limitation** of the simple rule-based AI (e.g., sarcasm).

Topics Introduced Text Classification, Sentiment Polarity, Rule-Based Logic (If/Then statements), and AI Safety Filters.

Topics in Detail

- **Polarity Score:** Explain it as a "Mood Thermometer," where -1.0 is very negative, +1.0 is very positive, and 0.0 is neutral.
- **Rule-Based Logic:** Demonstrate that the computer is just following a simple, clear set of rules (e.g., IF score is above 0.3 THEN show "Happy" 😊).

Activity Explanation (60-minute Flow)

1. **Hook (10 min):** Introduce the app and ask how social media platforms analyze our comments.
2. **Demo & Explain (25 min):** Have students use the app. Reveal the logic by using the **'Teacher Mode'** checkbox and explain the polarity score and the three classification rules.
3. **Challenge & Discuss (20 min):** Challenge students to "trick" the app with sentences containing **sarcasm** (e.g., "I just *love* getting a flat tire!"). Discuss *why* the rules fail here (limitation).
4. **Wrap-up (5 min):** Review the three classification rules and the need for the safety filter.

Learning Outcomes

1. Students can define sentiment polarity and its range.
2. Students can explain the purpose of the kid-safe response filter.
3. Students can give an example of an AI limitation (sarcasm).