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Assignment 7: Model Evaluation

Overview:
This assignment focused on evaluating classification models using Precision, Recall, and F1-score. The goal was to identify the most important evaluation metric for the sentiment analysis project.

Key Concepts:

1. Precision:

- Measures how many predicted positives are actually positive.
- High precision indicates fewer false positives.

2. Recall:

- Measures how many actual positives were correctly identified.
- High recall indicates fewer false negatives.

3. F1-score:

- Combines precision and recall into a single metric.
- Provides a balanced view of model performance, especially useful for imbalanced datasets.

Reflection:

For this sentiment analysis project, the **F1-score** is the most important metric.

- Sentiment data can be imbalanced, with more neutral or negative tweets than positive.
- A model focusing only on accuracy may misclassify minority classes.
- The F1-score ensures the model performs well for both positive and negative sentiments, balancing precision and recall.
- Using F1-score helps achieve reliable performance in real-world scenarios where subtle sentiment differences matter.

Project Milestone:

Decided that F1-score will be the primary evaluation metric for sentiment classification models.

Github: DataScience-AI/assignment 7 at main · MinahilIrfan98/DataScience-AI