🌟 Tamizhan Skills SE RISE Internship – Machine Learning & AI

📝 Task 4: Fake News Detection

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📄 Project Summary

>Objective:

To build a text classification model using Natural Language Processing (NLP) and Machine Learning techniques that classifies news articles as 'Real' or 'Fake'.

>Dataset Used:

Fake and Real News Dataset from Kaggle

>Step-by-Step Methodology:

1. Data Loading & Cleaning

2. Preprocessing: Remove missing values, stopwords, and apply TF-IDF vectorization

3. Train-Test Split: 75% training and 25% testing

4. Model Training: Passive Aggressive Classifier (PAC)

5. Evaluation: Accuracy, F1 Score, and Confusion Matrix

>Core Code Summary:

TF-IDF Vectorization: Converts text into numerical format.
Model: PassiveAggressiveClassifier from sklearn.
Accuracy and F1 Score used for evaluation.

>Results:

```
Accuracy: 50.00%
F1 Score: 0.67
Confusion Matrix:
 [[1 1]
 [0 0]]
```