□ Fake News Detection using Machine Learning

This project uses Natural Language Processing (NLP) and Machine Learning to detect whether a news article is real or fake. It includes a web-based interface built with **Streamlit**, allowing users to easily input news content and get predictions in real-time.

□ Project Goal

To build an intelligent system that can automatically classify news articles as real or fake using NLP techniques and a machine learning model.

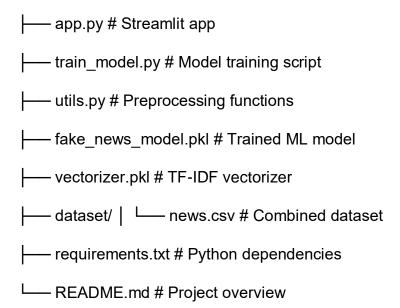
*≪*Features

- Clean and simple Streamlit UI
- Real-time prediction based on user input
- Trained using TF-IDF and Logistic Regression
- End-to-end pipeline: data preprocessing → model training → deployment

□ Technologies Used

- Python
- scikit-learn
- pandas, numpy
- NLTK
- TF-IDF Vectorizer
- Logistic Regression
- Streamlit for UI

fake-news-detection/



☐ How to Run the Project

- 1. Install dependencies ```bash pip install -r requirements.txt
- 2. Train the model

bash
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python train_model.py

3. Run the Streamlit app

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streamlit run app.py

Dataset

This project uses a merged dataset of real and fake news articles, labeled for binary classification:

- label = $0 \rightarrow Fake$
- label = $1 \rightarrow Real$

You can replace the sample dataset with full datasets from Kaggle Fake News Dataset.

□ Skills Used

- Machine Learning
- Text Preprocessing (NLP)
- Model Training and Evaluation
- Streamlit UI Development
- TF-IDF Feature Extraction
- Git & GitHub

Author

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Project developed as part of a Machine Learning minor project.