

```
import pandas as pd

from sklearn.model_selection import train_test_split

from sklearn.feature_extraction.text import TfidfVectorizer

from sklearn.linear_model import LogisticRegression

from sklearn.metrics import accuracy_score, classification_report


# Load dataset

# Dataset must have columns: ['title', 'text', 'label']

df = pd.read_csv('fake_news_dataset.csv') # Replace with your actual path


# Combine title and text for more context

df['content'] = df['title'] + " " + df['text']


# Encode label: FAKE = 0, REAL = 1

['label'] = df['label'].map({'FAKE': 0, 'REAL': 1})


# Features and labels

X = df['content']

y = df['label']


# Split the dataset

X_train, X_test, y_train, y_test = train_test_split(

    X, y, test_size=0.2, random_state=42
```

)

#### **# TF-IDF Vectorization**

```
tfidf = TfidfVectorizer(stop_words='english', max_df=0.7)
```

```
X_train_tfidf = tfidf.fit_transform(X_train)
```

```
X_test_tfidf = tfidf.transform(X_test)
```

#### **# Model training**

```
model = LogisticRegression()
```

```
model.fit(X_train_tfidf, y_train)
```

#### **# Prediction**

```
y_pred = model.predict(X_test_tfidf)
```

#### **# Evaluation**

```
print("Accuracy:", accuracy_score(y_test, y_pred))
```

```
print("\nClassification Report:\n", classification_report(y_test, y_pred))
```