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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 classification_report, accuracy_score

# Load dataset (you can replace with your own dataset)
# For example, "news.csv" with columns: 'text', 'label' (label = FAKE or REAL)
df = pd.read_csv("news.csv")

# Preprocessing
df['text'] = df['text'].fillna('')

# Splitting the data
X_train, X_test, y_train, y_test = train_test_split(df['text'], df['label'],
test_size=0.2, random_state=42)

# Vectorization (TF-IDF)
vectorizer = TfidfVectorizer(stop_words='english', max_df=0.7)
X_train_vec = vectorizer.fit_transform(X_train)
X_test_vec = vectorizer.transform(X_test)

# Model: Logistic Regression
model = LogisticRegression()
model.fit(X_train_vec, y_train)

# Predictions
y_pred = model.predict(X_test_vec)

# Evaluation
print("Accuracy:", accuracy_score(y_test, y_pred))
print(classification_report(y_test, y_pred))
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