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# Sentiment Chatbot (Stops when you type 'exit')

import nltk

import re

import string

from sklearn.feature_extraction.text import TfidfVectorizer

from sklearn.linear_model import LogisticRegression


# Download required NLTK data

nltk.download('punkt', quiet=True)

nltk.download('stopwords', quiet=True)


from nltk.corpus import stopwords

from nltk.tokenize import word_tokenize


stop_words = set(stopwords.words('english'))


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# Expanded Training Data

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texts = [

    # Positive

    "I am very happy",

    "This is amazing",

    "I love this product",

    "You are doing great",
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"I feel fantastic today",
"That was wonderful",
"This makes me smile",
"I am excited about this",
"Everything is awesome",
"I am proud of you",

Negative

"I am very sad",
"This is terrible",
"I hate this",
"I feel disappointed",
"This is the worst",
"I am upset",
"That was horrible",
"I feel angry",
"This makes me frustrated",
"I am not happy"

]

labels = [1]*10 + [0]*10

Preprocessing Function

def preprocess(text):

```
text = text.lower()

text = re.sub(r'\d+', '', text)

text = text.translate(str.maketrans("", "", string.punctuation))

tokens = word_tokenize(text)

tokens = [w for w in tokens if w not in stop_words]

return " ".join(tokens)
```

```
processed_texts = [preprocess(t) for t in texts]
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# TF-IDF + Model Training
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vectorizer = TfidfVectorizer()
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```
X = vectorizer.fit_transform(processed_texts)
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model = LogisticRegression()
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model.fit(X, labels)
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```
print("🤖 Chatbot Ready! Type 'exit' to stop.\n")
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# Interactive Chat Loop
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while True:
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    user_input = input("You: ")
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if user_input.lower() == "exit":  
    print("Chatbot: Goodbye! 🙋")  
    break
```

```
processed_input = preprocess(user_input)  
input_vector = vectorizer.transform([processed_input])  
prediction = model.predict(input_vector)[0]
```

```
if prediction == 1:  
    print("Chatbot: 😊 You sound positive!")  
else:  
    print("Chatbot: 😞 You seem upset.")
```