

# mentalhealthprediction

August 17, 2024

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[1]: import pandas as pd
data=pd.read_csv('Combined Data.csv',index_col=0)
data.head()
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[1]:
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	statement	status
0	oh my gosh	Anxiety
1	trouble sleeping, confused mind, restless hear...	Anxiety
2	All wrong, back off dear, forward doubt. Stay ...	Anxiety
3	I've shifted my focus to something else but I'...	Anxiety
4	I'm restless and restless, it's been a month n...	Anxiety

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[2]: data = data.dropna()
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[3]: import numpy as np
from sklearn.model_selection import train_test_split
from sklearn.feature_extraction.text import TfidfVectorizer
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import classification_report
from imblearn.over_sampling import SMOTE
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[4]: X_train, X_test, y_train, y_test = train_test_split(data['statement'],
↳data['status'], test_size=0.2, random_state=42)
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[5]: vectorizer = TfidfVectorizer(max_features=5000)
X_train_vectorized = vectorizer.fit_transform(X_train)
X_test_vectorized = vectorizer.transform(X_test)
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[6]: smote = SMOTE(random_state=42)
X_train_resampled, y_train_resampled = smote.fit_resample(X_train_vectorized,
↳y_train)
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[7]: clf = RandomForestClassifier(n_estimators=100, random_state=42)
clf.fit(X_train_resampled, y_train_resampled)
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[7]: RandomForestClassifier(random_state=42)
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[8]: y_pred = clf.predict(X_test_vectorized)
      print(classification_report(y_test, y_pred))
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	precision	recall	f1-score	support
Anxiety	0.78	0.74	0.76	755
Bipolar	0.90	0.67	0.77	527
Depression	0.65	0.70	0.67	3016
Normal	0.86	0.94	0.90	3308
Personality disorder	0.93	0.49	0.64	237
Stress	0.73	0.48	0.58	536
Suicidal	0.64	0.62	0.63	2158
accuracy			0.74	10537
macro avg	0.78	0.66	0.71	10537
weighted avg	0.74	0.74	0.74	10537

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[13]: new_sentences = ["oh my gosh", "Everything is great today"]
      new_sentences_vectorized = vectorizer.transform(new_sentences)
      predictions = clf.predict(new_sentences_vectorized)
      print(predictions)
```

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['Anxiety' 'Normal']
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