Stress Detection Project using Machine Learning

Project Description:

Stress, tension, and misery are undermining the psychological well-being of individuals. Each individual has a justification behind having an unpleasant life. Individuals frequently discuss their thoughts via web-based entertainment stages like on Instagram as posts and stories, and on Reddit through requesting ideas about their life on subreddits. In the beyond couple of years, many substance makers have approached to make content to assist individuals with their psychological wellness. Numerous associations can utilize pressure discovery to find which virtual entertainment clients are focused on to rapidly help them.

Stress discovery is a difficult undertaking, as there are so many words that can be utilized by individuals on their posts that can show regardless of whether an individual is having mental pressure.

The dataset I’m utilizing for this errand contains information presented on subreddits related on emotional wellness. This dataset contains different emotional well-being issues shared by individuals about their life.

People often share their feelings on social media platforms. Many organizations can use stress detection to find which social media users are stressed to help them quickly.

Literature Survey:

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| Sr. No | Title of Paper | Name of Authors | Published Year | Remarks |
| 1. | Machine Learning and IoT for Prediction and Detection of Stress | Mr.Purnendu Shekhar Pandey | 2017 | VF-15 algorithm,Navie Bayes approach |
| 2. | Stress Detection with Machine Learning and Deep Learning using Multimodal Physiological Data | Pramod Bobade  Vani M. | 2020 | Three class,  Binnary Classification |
| 4. | A Decision Tree Optimised SVM Model for Stress Detection using Biosignals | Alana Paul Cruz, Aravind Pradeep, Kavali Riya Sivasankar,Krishnaveni K.S | 2020 | This model with Tree optimised Cubic SVM shows more accuracy in identifying stress .With this accurate model we can take remedial measures to reduce health risks |
| 5. | Automatic Stress Detection Using Wearable Sensors and Machine Learning | Shruti Gedam,  Sanchita Pau | 2020 | Support vector machine, Random forest , K-Nearest Neighbor |

CODE:

import numpy as np

import pandas as pd

df=pd.read\_csv("C:/Users/Usha Sri/Downloads/stress.csv")

df.head()

df.describe()

df.isnull().sum()

import nltk

import re

from nltk. corpus import stopwords

import string

nltk. download( 'stopwords' )

stemmer = nltk. SnowballStemmer("english")

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

def clean(text):

text = str(text) . lower()

text = re. sub('\[.\*?\]',' ',text)

text = re. sub('https?://\S+/www\. \S+', ' ', text)

text = re. sub('<. \*?>+', ' ', text)

text = re. sub(' [%s]' % re. escape(string. punctuation), ' ', text)

text = re. sub(' \n',' ', text)

text = re. sub(' \w\*\d\w\*' ,' ', text)

text = [word for word in text. split(' ') if word not in stopword]

text =" ". join(text)

text = [stemmer . stem(word) for word in text. split(' ') ]

text = " ". join(text)

return text

df [ "text"] = df["text"]. apply(clean)

import matplotlib. pyplot as plt

from wordcloud import WordCloud, STOPWORDS, ImageColorGenerator

text = " ". join(i for i in df. text)

stopwords = set (STOPWORDS)

wordcloud = WordCloud( stopwords=stopwords,background\_color="white") . generate(text)

plt. figure(figsize=(10, 10) )

plt. imshow(wordcloud )

plt. axis("off")

plt. show( )

from sklearn. feature\_extraction. text import CountVectorizer

from sklearn. model\_selection import train\_test\_split

x = np.array (df["text"])

y = np.array (df["label"])

cv = CountVectorizer ()

X = cv. fit\_transform(x)

print(X)

xtrain, xtest, ytrain, ytest = train\_test\_split(X, y,test\_size=0.33)

from sklearn.naive\_bayes import BernoulliNB

model=BernoulliNB()

model.fit(xtrain,ytrain)

user=input("Enter the text")

data=cv.transform([user]).toarray()

output=model.predict(data)

print(output)