Spam Detection with Python

Spam detection is one of the machine learning projects that every data science beginner must have tried once. Recently I shared an article on how to detect spam emails and messages with machine learning which you can find here. With its continuation in this article, I'll walk you through how to build an end-to-end spam detection system with Python.

End-to-End Spam Detection with Python

To create an end-to-end application for the spam detection task, you must first learn how to detect spam alerts with machine learning. You can learn all about Spam Detection with Machine Learning from here. Now returning to its end-to-end deployment, I'll be using the streamlit library in Python to build an end-to-end application for the machine learning model to detect spam alerts in real-time. If you have never used the streamlit library before, you can easily install it on your system using the pip command

pip install streamlit

Now, if you have gone through this article, here is how you can build an end-to-end application for spam detection with Python

In [1]:
```
# import necessary library
import pandas as pd
import numpy as np
from sklearn.feature_extraction.text import CountVectorizer

# Spliting Data
from sklearn.model_selection import train_test_split

# Choosing Model & Training The Model
from sklearn.naive_bayes import MultinomialNB

# Data Collection
data = pd.read_csv("https://raw.githubusercontent.com/amankharwal/SMS-Spam-Detection/master/spam.csv", encoding='latin-1')

# Feature Selection
data = data[["class", "message"]]
x = np.array(data["message"])
y = np.array(data["class"])

# Choosing Model & Training The Model
cv = CountVectorizer()
x = cv.fit_transform(x) # fit the data
x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.33, random_state=42)

# another model
clf = MultinomialNB()
clf.fit(x_train, y_train)

# import streamlit
import streamlit as st
st.title("Spam Detection System")
def spamdetection():
    user = st.text_area("Enter any Message or Email: ")
    if len(user) < 1:
        st.write(" ")
    else:
        sample = user
        data = cv.transform[sample].toarray()
        a = clf.predict(data)
        st.title(a)
spamdetection()
```

You cannot run this code the same way you run your other Python programs. As we are using the streamlit library here, so you need to write a command mentioned below in your command prompt or terminal to run this code

streamlit run filename.py

Once this command executes, it will open a link on your default web browser that will display your end-to-end application for spam detection, as shown below

Summary

So this is how you can create an end-to-end spam detection system with Python. Spam detection is one of the machine learning projects that every data science beginner

must have tried once. So creating an end-to-end application for your project will turn out to be an advanced machine learning project. I hope you liked this article on how to create an end-to-end spam detection system with Python. Feel free to ask your valuable questions in the comments section below

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