Project – Sentiment Analysis

Rules

1. You must solve the problem in Python without using any external libraries. Your solution must build and run on Linux.
2. Unit tests *are mandatory*, so please include tests/specs. Additionally, it's a huge plus if you test drive your code.
3. Please ensure that you follow the syntax and formatting of both the input and output samples. We validate submissions using automated tests.
4. We are really interested in your object orientated development skills, so please solve the problem keeping this in mind.
5. Please ensure that the coding conventions, directory structure and build approach of your project follow the conventions set by popular open source projects in the language that you're using.
6. When implementing this solution, please use Git for version control. We expect you to send us a zip/tarball of your source code when you're done that includes Git metadata (the .git folder) in the tarball so we can look at your commit logs and understand how your solution evolved.
7. *Please do not* make either your solution or this problem statement publicly available by, for example, using github or bitbucket or by posting this problem to a blog or forum.

Project Requirement

1. Create a Sentiment Analysis Machine Learning Model

Sentiment analysis is the process of computationally identifying and categorizing opinions expressed in a piece of text, especially in order to determine whether the writer's attitude towards a particular service, product, etc. is positive, negative, or neutral. We want you to write your own Machine Learning Model to determine if a review of a hotel is Positive, Negative, or Neutral. You can use attached Hotel Reviews Dataset to train your model.

2. Create an API endpoint in Django

This endpoint expects a JSON in the request body. It must be an object with the data property and a list of the texts you want to classify as value. For example:

```
{
  "data": [
    "Mattress very comfortable.",
   "No bathroom in room",
  ]
}
```

Request Example: -

```
curl --data '{"data": ["Mattress very comfortable.", "No bathroom in room"]}' \
```

```
-H "Authorization:Token <<Insert your API Key here>>" \
-H "Content-Type: application/json" \
-D - \
"https://api.yourapp.com/v1/classifiers/classify/"
```

The response body is JSON formatted. A successful classification will return a list of results for each given text in the data parameter, each result contains a classifications key where the results are shown.

For example, for the previous request the response body will look like this:


```
[
  {
    "text": "Mattress very comfortable.",
    "error": false,
    "classifications": [
      {
        "tag_name": "Positive",
        "confidence": 0.998
      }
    ]
  },
  {
    "text": "No bathroom in room",
    "error": false,
    "classifications": [
      {
        "tag_name": "Negative",
        "confidence": 0.998
      }
    ]
  }
]
```


3. Create a UI on home page, that performs the above operation and display the classifications results

The form should have Textbox and a submit button. Results should display in same page.

4. Record this project in GitHub

We Want you to commit your progress to GitHub, with proper commit message.
Share the link to the project for review.