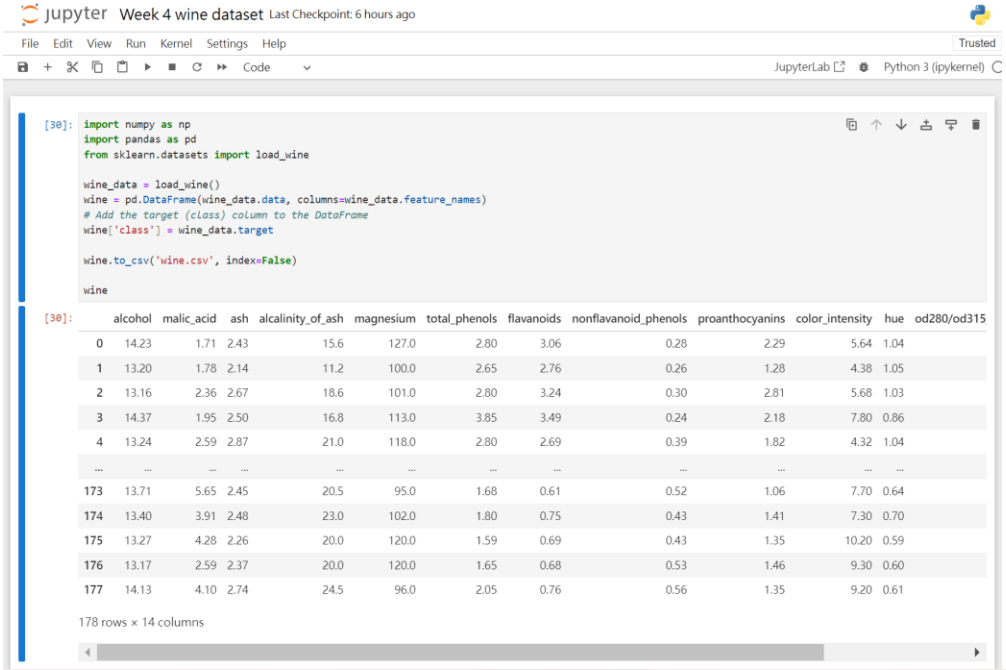
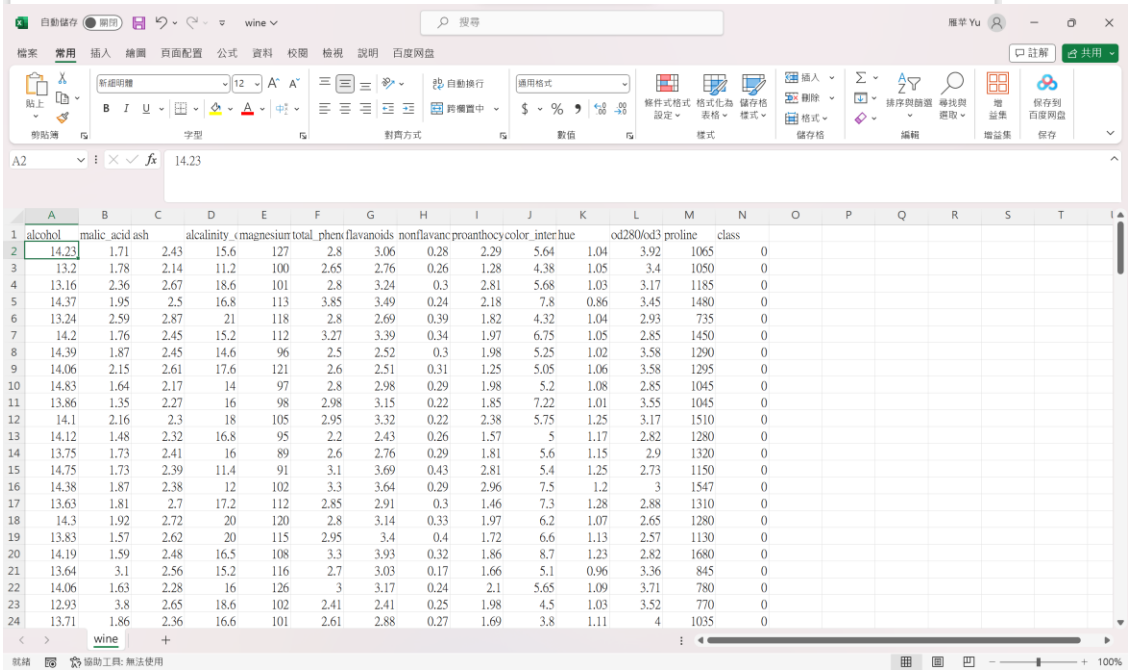
Report

Name: Deployment on Flask
Report date: 03/07/2024
Internship Batch: LISUM30
Version:1.0
Report by: Yan-Ping Yu
Data intake reviewer:
Data storage location: https://github.com/YanPing0227/yanping-my-repo





Spyder (Python 3.10)

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C:\Users\User\Desktop\Data Glacier Internship\Week4\model classification.py

model classification.py | Week4_Flask.py

```python
import pandas as pd
import pickle


dataset = pd.read_csv('wine.csv')


X = dataset.iloc[:, :13]
y = dataset.iloc[:, -1]

from sklearn.ensemble import RandomForestClassifier
rf = RandomForestClassifier()

#Fitting model with training data
rf.fit(X, y)

# Saving model to disk
pickle.dump(rf, open('model_classfication.pkl','wb'))
```

Spyder (Python 3.10)

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C:\Users\User\Desktop\Data Glacier Internship\Week4\html_week4.html

model classification.py | html_week4.html | Week4_Flask.py

```html
<!DOCTYPE html>
<html >
<head>
  <meta charset="UTF-8">
  <title>ML API</title>
  <link href='https://fonts.googleapis.com/css?family=Pacifico' rel='stylesheet' type='text/css'>
<link href='https://fonts.googleapis.com/css?family=Arimo' rel='stylesheet' type='text/css'>
<link href='https://fonts.googleapis.com/css?family=Hind:300' rel='stylesheet' type='text/css'>
<link href='https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300' rel='stylesheet' type='text/css'>
<link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}">

</head>

<body>
 <div class="login">
    <h1>Classify Wine</h1>

    <!-- Main Input For Receiving Query to our ML -->
    <form action="{{ url_for('predict')}}"method="post">
        <input type="text" name="alcohol" placeholder="alcohol" required="required" />
        <input type="text" name="malic_acid" placeholder="malic_acid" required="required" />
        <input type="text" name="ash" placeholder="ash" required="required" />
        <input type="text" name="alcalinity_of_ash" placeholder="alcalinity_of_ash" required="required" />
        <input type="text" name="magnesium" placeholder="magnesium" required="required" />
        <input type="text" name="total_phenols" placeholder="total_phenols" required="required" />
        <input type="text" name="flavanoids" placeholder="flavanoids" required="required" />
        <input type="text" name="nonflavanoid_phenols" placeholder="nonflavanoid_phenols" required="required" />
        <input type="text" name="proanthocyanins" placeholder="proanthocyanins" required="required" />
        <input type="text" name="color_intensity" placeholder="color_intensity" required="required" />
        <input type="text" name="hue" placeholder="hue" required="required" />
        <input type="text" name="od280/od315_of_diluted_wines" placeholder="od280/od315_of_diluted_wines" required="required" />
        <input type="text" name="proline" placeholder="proline" required="required" />

        <button type="submit" class="btn btn-primary btn-block btn-large">Predict</button>
    </form>

   <br>
   <br>
   {{ prediction_text }}

 </div>
 <img src="/static/images/Original.svg" style="width: 400px;position: absolute;bottom: 10px;left: 10px;" alt="Company Logo"/>

</body>
</html>
```

Spyder (Python 3.10)

File Edit Search Source Run Debug Consoles Projects Tools View Help

C:\Users\User

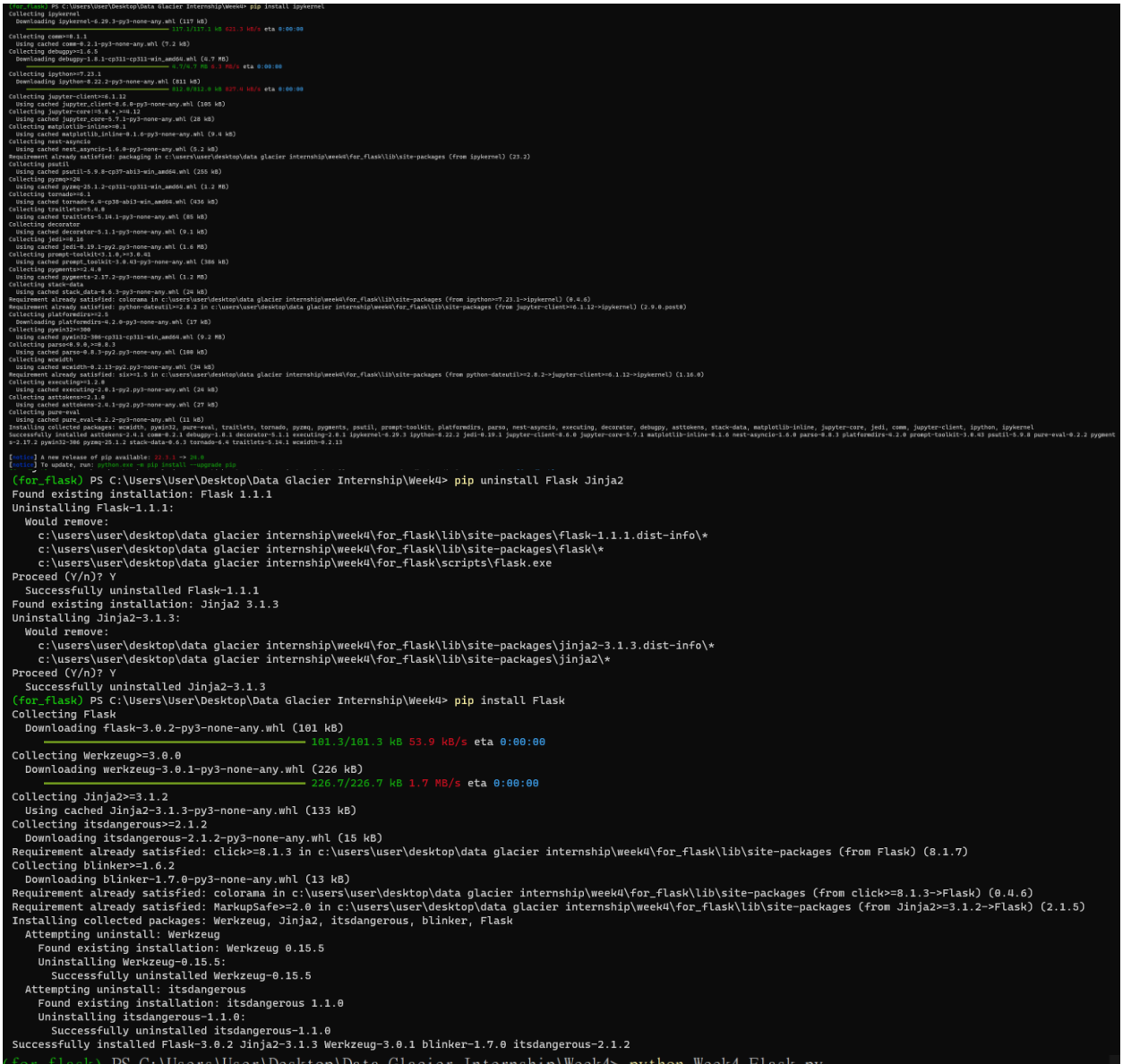
C:\Users\User\Desktop\Data Glacier Internship\Week4\Week4_Flask.py

model classification.py | html_week4.html | Week4_Flask.py

```python
import numpy as np
from flask import Flask, request,render_template
import pickle

app = Flask(__name__)
model = pickle.load(open('model_classfication.pkl', 'rb'))

@app.route('/')
def home():
    return render_template('html_week4.html')

@app.route('/predict',methods=['POST'])
def predict():
    '''
    For rendering results on HTML GUI
    '''
    features = [x for x in request.form.values()]
    final_features = [np.array(features)]
    prediction = model.predict(final_features)

    output = prediction[0]

    return render_template('html_week4.html', prediction_text='The class of wine should be {}'.format(output))

if __name__ == "__main__":
    app.run(debug=True)
```

```
PS C:\Users\User> cd "C:\Users\User\Desktop\Data Glacier Internship\Week4"
PS C:\Users\User\Desktop\Data Glacier Internship\Week4> python -m venv for_flask
PS C:\Users\User\Desktop\Data Glacier Internship\Week4> for_flask\Scripts\activate
```

```
(for_flask) PS C:\Users\User\Desktop\Data Glacier Internship\Week4> pip install -r requirements.txt
Collecting Flask==1.1.1
  Downloading Flask-1.1.1-py2.py3-none-any.whl (94 kB)
     ---------------------------------------- 94.8/94.8 kB 1.8 MB/s eta 0:00:00
Collecting gunicorn==19.9.0
  Downloading gunicorn-19.9.0-py2.py3-none-any.whl (112 kB)
     ---------------------------------------- 112.9/112.9 kB 6.8 MB/s eta 0:00:00
Collecting itsdangerous==1.1.0
  Downloading itsdangerous-1.1.0-py2.py3-none-any.whl (16 kB)
Collecting Jinja2==2.10.1
  Downloading Jinja2-2.10.1-py2.py3-none-any.whl (124 kB)
     ---------------------------------------- 124.9/124.9 kB 7.2 MB/s eta 0:00:00
Collecting MarkupSafe==1.1.1
  Downloading MarkupSafe-1.1.1.tar.gz (19 kB)
  Preparing metadata (setup.py) ... done
Collecting Werkzeug==0.15.5
  Downloading Werkzeug-0.15.5-py2.py3-none-any.whl (328 kB)
     ---------------------------------------- 328.2/328.2 kB 5.0 MB/s eta 0:00:00
Collecting numpy==1.9.2
  Downloading numpy-1.26.4-cp311-cp311-win_amd64.whl (15.8 MB)
     ---------------------------------------- 15.8/15.8 MB 1.3 MB/s eta 0:00:00
Collecting scipy==0.15.1
  Downloading scipy-1.12.0-cp311-cp311-win_amd64.whl (46.2 MB)
     ---------------------------------------- 46.2/46.2 MB 1.3 MB/s eta 0:00:00
Collecting scikit-learn==0.18
  Downloading scikit_learn-1.4.1.post1-cp311-cp311-win_amd64.whl (10.6 MB)
     ---------------------------------------- 10.6/10.6 MB 7.2 MB/s eta 0:00:00
Collecting matplotlib==1.4.3
  Downloading matplotlib-3.8.3-cp311-cp311-win_amd64.whl (7.6 MB)
     ---------------------------------------- 7.6/7.6 MB 3.6 MB/s eta 0:00:00
Collecting pandas>=0.19
  Downloading pandas-2.2.1-cp311-cp311-win_amd64.whl (11.6 MB)
     ---------------------------------------- 11.6/11.6 MB 5.3 MB/s eta 0:00:00
Collecting click>=5.1
  Downloading click-8.1.7-py3-none-any.whl (97 kB)
     ---------------------------------------- 97.9/97.9 kB 1.9 MB/s eta 0:00:00
Collecting joblib>=1.2.0
  Downloading joblib-1.3.2-py3-none-any.whl (302 kB)
     ---------------------------------------- 302.2/302.2 kB 9.6 MB/s eta 0:00:00
Collecting threadpoolctl>=2.0.0
  Downloading threadpoolctl-3.3.0-py3-none-any.whl (17 kB)
Collecting contourpy>=1.0.1
  Downloading contourpy-1.2.0-cp311-cp311-win_amd64.whl (187 kB)
     ---------------------------------------- 187.6/187.6 kB 11.1 MB/s eta 0:00:00
Collecting cycler>=0.10
  Downloading cycler-0.12.1-py3-none-any.whl (8.3 kB)
Collecting fonttools>=4.22.0
  Downloading fonttools-4.49.0-cp311-cp311-win_amd64.whl (2.2 MB)
     ---------------------------------------- 2.2/2.2 MB 3.7 MB/s eta 0:00:00
Collecting kiwisolver>=1.3.1
  Downloading kiwisolver-1.4.5-cp311-cp311-win_amd64.whl (56 kB)
     ---------------------------------------- 56.1/56.1 kB 3.1 MB/s eta 0:00:00
Collecting packaging>=20.0
  Downloading packaging-23.2-py3-none-any.whl (53 kB)
     ---------------------------------------- 53.0/53.0 kB 2.9 MB/s eta 0:00:00
Collecting pillow>=8
  Downloading pillow-10.2.0-cp311-cp311-win_amd64.whl (2.6 MB)
     ---------------------------------------- 2.6/2.6 MB 2.2 MB/s eta 0:00:00
Collecting pyparsing>=2.3.1
  Downloading pyparsing-3.1.2-py3-none-any.whl (103 kB)
     ---------------------------------------- 103.2/103.2 kB 3.0 MB/s eta 0:00:00
Collecting python-dateutil>=2.7
  Downloading python_dateutil-2.9.0.post0-py2.py3-none-any.whl (229 kB)
     ---------------------------------------- 229.9/229.9 kB 4.7 MB/s eta 0:00:00
Collecting pytz>=2020.1
  Using cached pytz-2024.1-py2.py3-none-any.whl (505 kB)
Collecting tzdata>=2022.7
  Downloading tzdata-2024.1-py2.py3-none-any.whl (345 kB)
     ---------------------------------------- 345.4/345.4 kB 3.6 MB/s eta 0:00:00
Collecting colorama
  Using cached colorama-0.4.6-py2.py3-none-any.whl (25 kB)
Collecting six>=1.5
  Using cached six-1.16.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: pytz, Werkzeug, tzdata, threadpoolctl, six, pyparsing, pillow, packaging, numpy, MarkupSafe, kiwisolver, joblib, itsdangerous, gunicorn, fonttools, cycler, colorama, scipy, python-dateutil, Jinja2, contourpy, click, scikit-learn, pandas, matplotlib, Flask
  DEPRECATION: MarkupSafe is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package is not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https://github.com/pypa/pip/issues/8559
  Running setup.py install for MarkupSafe ... done
Successfully installed Flask-1.1.1 Jinja2-2.10.1 MarkupSafe-1.1.1 Werkzeug-0.15.5 click-8.1.7 colorama-0.4.6 contourpy-1.2.0 cycler-0.12.1 fonttools-4.49.0 gunicorn-19.9.0 itsdangerous-1.1.0 joblib-1.3.2 kiwisolver-1.4.5 matplotlib-3.8.3 numpy-1.26.4 packaging-23.2 pandas-2.2.1 pillow-10.2.0 pyparsing-3.1.2 python-dateutil-2.9.0.post0 pytz-2024.1 scikit-learn-1.4.1.post1 scipy-1.12.0 six-1.16.0 threadpoolctl-3.3.0 tzdata-2024.1

[notice] A new release of pip available: 22.3.1 -> 24.0
[notice] To update, run: python.exe -m pip install --upgrade pip
(for_flask) PS C:\Users\User\Desktop\Data Glacier Internship\Week4> pip install ipykernel
```


(for_flask) PS C:\Users\User\Desktop\Data Glacier Internship\Week4> pip install ipykernel
Collecting ipykernel
Downloading ipykernel-6.29.3-py3-none-any.whl (117 kB)
117.1/117.1 kB 621.3 kB/s eta 0:00:00
Collecting comm>=8.1.1
Using cached comm-0.2.1-py3-none-any.whl (7.2 kB)
Collecting debugpy>=1.6.5
Downloading debugpy-1.8.1-cp311-cp311-win_amd64.whl (5.7 MB)
5.7/5.7 MB 4.1 MB/s eta 0:00:00
Collecting ipython>=7.23.1
Downloading ipython-8.22.2-py3-none-any.whl (811 kB)
811.8/811.8 kB 827.4 kB/s eta 0:00:00
Collecting jupyter-client>=6.1.12
Using cached jupyter_client-8.6.0-py3-none-any.whl (105 kB)
Collecting jupyter-core!=5.0.*,>=4.12
Using cached jupyter_core-5.7.1-py3-none-any.whl (28 kB)
Collecting matplotlib-inline>=0.1
Using cached matplotlib_inline-0.1.6-py3-none-any.whl (9.4 kB)
Collecting nest-asyncio
Using cached nest_asyncio-1.6.0-py3-none-any.whl (5.2 kB)
Requirement already satisfied: packaging in c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages (from ipykernel) (23.2)
Collecting psutil
Using cached psutil-5.9.8-cp37-abi3-win_amd64.whl (255 kB)
Collecting pyzmq>=24
Using cached pyzmq-25.1.2-cp311-cp311-win_amd64.whl (1.2 MB)
Collecting tornado>=6.1
Using cached tornado-6.4-cp38-abi3-win_amd64.whl (436 kB)
Collecting traitlets>=5.4.0
Using cached traitlets-5.14.1-py3-none-any.whl (85 kB)
Collecting decorator
Using cached decorator-5.1.1-py3-none-any.whl (9.1 kB)
Collecting jedi>=0.16
Using cached jedi-0.19.1-py2.py3-none-any.whl (1.6 MB)
Collecting prompt-toolkit<3.1.0,>=3.0.41
Using cached prompt_toolkit-3.0.43-py3-none-any.whl (386 kB)
Collecting pygments>=2.4.0
Using cached pygments-2.17.2-py3-none-any.whl (1.2 MB)
Collecting stack-data
Using cached stack_data-0.6.3-py3-none-any.whl (24 kB)
Requirement already satisfied: colorama in c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages (from ipython>=7.23.1->ipykernel) (0.4.6)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages (from jupyter-client>=6.1.12->ipykernel) (2.9.0.post0)
Collecting platformdirs>=2.5
Downloading platformdirs-4.2.0-py3-none-any.whl (17 kB)
Collecting pywin32>=300
Using cached pywin32-306-cp311-cp311-win_amd64.whl (9.2 MB)
Collecting parso<0.9.0,>=0.8.3
Using cached parso-0.8.3-py2.py3-none-any.whl (100 kB)
Collecting wcwidth
Using cached wcwidth-0.2.13-py2.py3-none-any.whl (34 kB)
Requirement already satisfied: six>=1.5 in c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages (from python-dateutil>=2.8.2->jupyter-client>=6.1.12->ipykernel) (1.16.0)
Collecting executing>=1.2.0
Using cached executing-2.0.1-py2.py3-none-any.whl (24 kB)
Collecting asttokens>=2.1.0
Using cached asttokens-2.4.1-py2.py3-none-any.whl (27 kB)
Collecting pure-eval
Using cached pure_eval-0.2.2-py3-none-any.whl (11 kB)
Installing collected packages: wcwidth, pywin32, pure-eval, traitlets, tornado, pyzmq, pygments, psutil, prompt-toolkit, platformdirs, parso, nest-asyncio, executing, decorator, debugpy, asttokens, stack-data, matplotlib-inline, jupyter-core, jedi, comm, jupyter-client, ipython, ipykernel
Successfully installed asttokens-2.4.1 comm-0.2.1 debugpy-1.8.1 decorator-5.1.1 executing-2.0.1 ipykernel-6.29.3 ipython-8.22.2 jedi-0.19.1 jupyter-client-8.6.0 jupyter-core-5.7.1 matplotlib-inline-0.1.6 nest-asyncio-1.6.0 parso-0.8.3 platformdirs-4.2.0 prompt-toolkit-3.0.43 psutil-5.9.8 pure-eval-0.2.2 pygments-2.17.2 pywin32-306 pyzmq-25.1.2 stack-data-0.6.3 tornado-6.4 traitlets-5.14.1 wcwidth-0.2.13
[notice] A new release of pip available: 22.3.1 -> 24.0
[notice] To update, run: python.exe -m pip install --upgrade pip
(for_flask) PS C:\Users\User\Desktop\Data Glacier Internship\Week4> pip uninstall Flask Jinja2
Found existing installation: Flask 1.1.1
Uninstalling Flask-1.1.1:
Would remove:
c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages\flask-1.1.1.dist-info*
c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages\flask*
c:\users\user\desktop\data glacier internship\week4\for_flask\scripts\flask.exe
Proceed (Y/n)? Y
Successfully uninstalled Flask-1.1.1
Found existing installation: Jinja2 3.1.3
Uninstalling Jinja2-3.1.3:
Would remove:
c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages\jinja2-3.1.3.dist-info*
c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages\jinja2*
Proceed (Y/n)? Y
Successfully uninstalled Jinja2-3.1.3
(for_flask) PS C:\Users\User\Desktop\Data Glacier Internship\Week4> pip install Flask
Collecting Flask
Downloading flask-3.0.2-py3-none-any.whl (101 kB)
101.3/101.3 kB 53.9 kB/s eta 0:00:00
Collecting Werkzeug>=3.0.0
Downloading werkzeug-3.0.1-py3-none-any.whl (226 kB)
226.7/226.7 kB 1.7 MB/s eta 0:00:00
Collecting Jinja2>=3.1.2
Using cached Jinja2-3.1.3-py3-none-any.whl (133 kB)
Collecting itsdangerous>=2.1.2
Downloading itsdangerous-2.1.2-py3-none-any.whl (15 kB)
Requirement already satisfied: click>=8.1.3 in c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages (from Flask) (8.1.7)
Collecting blinker>=1.6.2
Downloading blinker-1.7.0-py3-none-any.whl (13 kB)
Requirement already satisfied: colorama in c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages (from click>=8.1.3->Flask) (0.4.6)
Requirement already satisfied: MarkupSafe>=2.0 in c:\users\user\desktop\data glacier internship\week4\for_flask\lib\site-packages (from Jinja2>=3.1.2->Flask) (2.1.5)
Installing collected packages: Werkzeug, Jinja2, itsdangerous, blinker, Flask
Attempting uninstall: Werkzeug
Found existing installation: Werkzeug 0.15.5
Uninstalling Werkzeug-0.15.5:
Successfully uninstalled Werkzeug-0.15.5
Attempting uninstall: itsdangerous
Found existing installation: itsdangerous 1.1.0
Uninstalling itsdangerous-1.1.0:
Successfully uninstalled itsdangerous-1.1.0
Successfully installed Flask-3.0.2 Jinja2-3.1.3 Werkzeug-3.0.1 blinker-1.7.0 itsdangerous-2.1.2
(for_flask) PS C:\Users\User\Desktop\Data Glacier Internship\Week4> python Week4_Flask.py
* Serving Flask app 'Week4_Flask'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 103-604-705
127.0.0.1 - - [08/Mar/2024 00:03:19] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [08/Mar/2024 00:03:19] "GET /static/css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [08/Mar/2024 00:03:19] "GET /static/images/Original.svg HTTP/1.1" 404 -
C:\Users\User\Desktop\Data Glacier Internship\Week4\for_flask\Lib\site-packages\sklearn\base.py:493: UserWarning: X does not have valid feature names, but RandomForestClassifier was fitted with feature names
warnings.warn(
127.0.0.1 - - [08/Mar/2024 00:04:00] "POST /predict HTTP/1.1" 200 -
127.0.0.1 - - [08/Mar/2024 00:04:01] "GET /static/css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [08/Mar/2024 00:04:01] "GET /static/images/Original.svg HTTP/1.1" 404 -
127.0.0.1 - - [08/Mar/2024 00:04:30] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [08/Mar/2024 00:04:30] "GET /static/css/style.css HTTP/1.1" 404 -
127.0.0.1 - - [08/Mar/2024 00:04:30] "GET /static/images/Original.svg HTTP/1.1" 404 -

Classify Wine

alcohol	malic_acid	ash	alcalinity_of_ash	magnesium	total_phenols	flavanoids	nonflavanoid_phenols
proanthocyanins	color_intensity	hue	od280/od315_of_diluted_wi	proline	Predict		

Classify Wine

14.23	1.71	2.43	15.6	127	2.8	3.06	0.28
2.29	5.64	1.04	3.92	1065	Predict		

The class of wine should be 0