tf

February 12, 2023

```
[1]: pip install pandas_profiling
```

```
Collecting pandas_profiling
  Using cached pandas_profiling-3.6.6-py2.py3-none-any.whl (324 kB)
Collecting ydata-profiling
  Using cached ydata_profiling-4.0.0-py2.py3-none-any.whl (344 kB)
Requirement already satisfied: tqdm<4.65,>=4.48.2 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (4.64.1)
Collecting phik<0.13,>=0.11.1
  Using cached phik-0.12.3-cp39-cp39-win_amd64.whl (663 kB)
Requirement already satisfied: seaborn<0.13,>=0.10.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (0.12.2)
Collecting multimethod<1.10,>=1.4
  Using cached multimethod-1.9.1-py3-none-any.whl (10 kB)
Collecting visions[type_image_path]==0.7.5
  Using cached visions-0.7.5-py3-none-any.whl (102 kB)
Collecting scipy<1.10,>=1.4.1
  Using cached scipy-1.9.3-cp39-cp39-win_amd64.whl (40.2 MB)
Requirement already satisfied: htmlmin==0.1.12 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (0.1.12)
Requirement already satisfied: pandas!=1.4.0,<1.6,>1.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (1.5.3)
Collecting statsmodels<0.14,>=0.13.2
  Using cached statsmodels-0.13.5-cp39-cp39-win_amd64.whl (9.2 MB)
Requirement already satisfied: matplotlib<3.7,>=3.2 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (3.6.3)
Requirement already satisfied: typeguard<2.14,>=2.13.2 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (2.13.3)
Requirement already satisfied: pydantic<1.11,>=1.8.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (1.10.4)
Requirement already satisfied: requests<2.29,>=2.24.0 in
```

c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (2.28.2)
Requirement already satisfied: jinja2<3.2,>=2.11.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (3.1.2)
Requirement already satisfied: numpy<1.24,>=1.16.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (1.23.5)
Requirement already satisfied: PyYAML<6.1,>=5.0.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ydata-
profiling->pandas_profiling) (6.0)
Requirement already satisfied: attrs>=19.3.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
visions[type_image_path]==0.7.5->ydata-profiling->pandas_profiling) (22.2.0)
Requirement already satisfied: tangled-up-in-unicode>=0.0.4 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
visions[type_image_path]==0.7.5->ydata-profiling->pandas_profiling) (0.2.0)
Collecting networkx>=2.4
  Using cached networkx-3.0-py3-none-any.whl (2.0 MB)
Collecting imagehash
  Using cached ImageHash-4.3.1-py2.py3-none-any.whl (296 kB)
Requirement already satisfied: Pillow in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
visions[type_image_path]==0.7.5->ydata-profiling->pandas_profiling) (9.4.0)
Requirement already satisfied: MarkupSafe>=2.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
jinja2<3.2,>=2.11.1->ydata-profiling->pandas_profiling) (2.1.2)
Requirement already satisfied: cycler>=0.10 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
matplotlib<3.7,>=3.2->ydata-profiling->pandas_profiling) (0.11.0)
Requirement already satisfied: pyparsing>=2.2.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
matplotlib<3.7,>=3.2->ydata-profiling->pandas_profiling) (3.0.9)
Requirement already satisfied: kiwisolver>=1.0.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
matplotlib<3.7,>=3.2->ydata-profiling->pandas_profiling) (1.4.4)
Requirement already satisfied: python-dateutil>=2.7 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
matplotlib<3.7,>=3.2->ydata-profiling->pandas_profiling) (2.8.2)
Requirement already satisfied: contourpy>=1.0.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
matplotlib<3.7,>=3.2->ydata-profiling->pandas_profiling) (1.0.7)
Requirement already satisfied: fonttools>=4.22.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
matplotlib<3.7,>=3.2->ydata-profiling->pandas_profiling) (4.38.0)
Requirement already satisfied: packaging>=20.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
matplotlib<3.7,>=3.2->ydata-profiling->pandas_profiling) (23.0)

Requirement already satisfied: pytz>=2020.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
pandas!=1.4.0,<1.6,>1.1->ydata-profiling->pandas_profiling) (2022.7.1)
Requirement already satisfied: joblib>=0.14.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
phik<0.13,>=0.11.1->ydata-profiling->pandas_profiling) (1.2.0)
Requirement already satisfied: typing-extensions>=4.2.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
pydantic<1.11,>=1.8.1->ydata-profiling->pandas_profiling) (4.4.0)
Requirement already satisfied: certifi>=2017.4.17 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
requests<2.29,>=2.24.0->ydata-profiling->pandas_profiling) (2022.12.7)
Requirement already satisfied: charset-normalizer<4,>=2 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
requests<2.29,>=2.24.0->ydata-profiling->pandas_profiling) (3.0.1)
Requirement already satisfied: idna<4,>=2.5 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
requests<2.29,>=2.24.0->ydata-profiling->pandas_profiling) (3.4)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
requests<2.29,>=2.24.0->ydata-profiling->pandas_profiling) (1.26.14)
Collecting patsy>=0.5.2
  Using cached patsy-0.5.3-py2.py3-none-any.whl (233 kB)
Requirement already satisfied: colorama in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
tqdm<4.65,>=4.48.2->ydata-profiling->pandas_profiling) (0.4.6)
Requirement already satisfied: six in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
patsy>=0.5.2->statsmodels<0.14,>=0.13.2->ydata-profiling->pandas_profiling)
(1.16.0)
Collecting PyWavelets
  Using cached PyWavelets-1.4.1-cp39-cp39-win_amd64.whl (4.2 MB)
Installing collected packages: scipy, PyWavelets, patsy, networkx, multimethod,
imagehash, visions, statsmodels, phik, ydata-profiling, pandas_profiling
  Attempting uninstall: scipy
    Found existing installation: scipy 1.10.0
    Uninstalling scipy-1.10.0:
      Successfully uninstalled scipy-1.10.0
Successfully installed PyWavelets-1.4.1 imagehash-4.3.1 multimethod-1.9.1
networkx-3.0 pandas_profiling-3.6.6 patsy-0.5.3 phik-0.12.3 scipy-1.9.3
statsmodels-0.13.5 visions-0.7.5 ydata-profiling-4.0.0
Note: you may need to restart the kernel to use updated packages.

[1]: ```python
import streamlit as st
```

[2]: ```python
pip install ipywidgets
```

Collecting ipywidgets

```
  Downloading ipywidgets-8.0.4-py3-none-any.whl (137 kB)
     ---------------------------------- 137.8/137.8 kB 582.3 kB/s eta 0:00:00
Requirement already satisfied: ipykernel>=4.5.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ipywidgets)
(6.19.2)
Collecting jupyterlab-widgets~=3.0
  Downloading jupyterlab_widgets-3.0.5-py3-none-any.whl (384 kB)
     ---------------------------------- 384.3/384.3 kB 2.4 MB/s eta 0:00:00
Requirement already satisfied: traitlets>=4.3.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ipywidgets) (5.7.1)
Collecting widgetsnbextension~=4.0
  Downloading widgetsnbextension-4.0.5-py3-none-any.whl (2.0 MB)
     ------------------------------------ 2.0/2.0 MB 1.2 MB/s eta 0:00:00
Requirement already satisfied: ipython>=6.1.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from ipywidgets) (8.8.0)
Requirement already satisfied: matplotlib-inline>=0.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipykernel>=4.5.1->ipywidgets) (0.1.6)
Requirement already satisfied: jupyter-client>=6.1.12 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipykernel>=4.5.1->ipywidgets) (7.4.8)
Requirement already satisfied: pyzmq>=17 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipykernel>=4.5.1->ipywidgets) (23.2.0)
Requirement already satisfied: comm>=0.1.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipykernel>=4.5.1->ipywidgets) (0.1.2)
Requirement already satisfied: tornado>=6.1 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipykernel>=4.5.1->ipywidgets) (6.2)
Requirement already satisfied: psutil in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipykernel>=4.5.1->ipywidgets) (5.9.0)
Requirement already satisfied: packaging in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipykernel>=4.5.1->ipywidgets) (23.0)
Requirement already satisfied: debugpy>=1.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipykernel>=4.5.1->ipywidgets) (1.5.1)
Requirement already satisfied: nest-asyncio in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipykernel>=4.5.1->ipywidgets) (1.5.6)
Requirement already satisfied: decorator in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipython>=6.1.0->ipywidgets) (5.1.1)
Requirement already satisfied: pickleshare in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipython>=6.1.0->ipywidgets) (0.7.5)
```

```
Requirement already satisfied: stack-data in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipython>=6.1.0->ipywidgets) (0.2.0)
Requirement already satisfied: colorama in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipython>=6.1.0->ipywidgets) (0.4.6)
Requirement already satisfied: jedi>=0.16 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipython>=6.1.0->ipywidgets) (0.18.1)
Requirement already satisfied: pygments>=2.4.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipython>=6.1.0->ipywidgets) (2.14.0)
Requirement already satisfied: backcall in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipython>=6.1.0->ipywidgets) (0.2.0)
Requirement already satisfied: prompt-toolkit<3.1.0,>=3.0.11 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
ipython>=6.1.0->ipywidgets) (3.0.36)
Requirement already satisfied: parso<0.9.0,>=0.8.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from
jedi>=0.16->ipython>=6.1.0->ipywidgets) (0.8.3)
Requirement already satisfied: jupyter-core>=4.9.2 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from jupyter-
client>=6.1.12->ipykernel>=4.5.1->ipywidgets) (5.1.1)
Requirement already satisfied: python-dateutil>=2.8.2 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from jupyter-
client>=6.1.12->ipykernel>=4.5.1->ipywidgets) (2.8.2)
Requirement already satisfied: entrypoints in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from jupyter-
client>=6.1.12->ipykernel>=4.5.1->ipywidgets) (0.4)
Requirement already satisfied: wcwidth in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from prompt-
toolkit<3.1.0,>=3.0.11->ipython>=6.1.0->ipywidgets) (0.2.5)
Requirement already satisfied: asttokens in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from stack-
data->ipython>=6.1.0->ipywidgets) (2.0.5)
Requirement already satisfied: pure-eval in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from stack-
data->ipython>=6.1.0->ipywidgets) (0.2.2)
Requirement already satisfied: executing in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from stack-
data->ipython>=6.1.0->ipywidgets) (0.8.3)
Requirement already satisfied: platformdirs>=2.5 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from jupyter-
core>=4.9.2->jupyter-client>=6.1.12->ipykernel>=4.5.1->ipywidgets) (2.5.2)
Requirement already satisfied: pywin32>=1.0 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from jupyter-
core>=4.9.2->jupyter-client>=6.1.12->ipykernel>=4.5.1->ipywidgets) (305.1)
```

```
Requirement already satisfied: six>=1.5 in
c:\users\muham\miniconda3\envs\bajwa\lib\site-packages (from python-
dateutil>=2.8.2->jupyter-client>=6.1.12->ipykernel>=4.5.1->ipywidgets) (1.16.0)
Installing collected packages: widgetsnbextension, jupyterlab-widgets,
ipywidgets
Successfully installed ipywidgets-8.0.4 jupyterlab-widgets-3.0.5
widgetsnbextension-4.0.5
Note: you may need to restart the kernel to use updated packages.
```

[4]:
```python
import smtplib
```

[ ]:
```python
import re
import smtplib
import csv

def is_valid_email(email):
    email_regex = re.compile(r'[^@]+@[^@]+\.[^@]+')
    return email_regex.match(email) is not None

def is_active_email(email):
    try:
        smtp_server = smtplib.SMTP('smtp.example.com')
        smtp_server.ehlo()
        smtp_server.starttls()
        smtp_server.ehlo()
        smtp_server.login('user@example.com', 'password')
        smtp_server.sendmail('user@example.com', email, 'Subject: Test\n\nThis
    is a test email.')
        smtp_server.quit()
        return True
    except:
        return False

with open('emails.csv', 'r') as email_file:
    email_reader = csv.reader(email_file)
    headers = next(email_reader)
    results = []
    for row in email_reader:
        email = row[0]
        if is_valid_email(email):
            print(f"{email} is a valid email address")
            if is_active_email(email):
                print(f"{email} is an active email address")
                results.append([email, 'valid', 'active'])
            else:
                print(f"{email} is not an active email address")
                results.append([email, 'valid', 'inactive'])
```

```python
        else:
            print(f"{email} is not a valid email address")
            results.append([email, 'invalid', ''])

with open('email_results.csv', 'w', newline='') as result_file:
    result_writer = csv.writer(result_file)
    result_writer.writerow(['Email', 'Validity', 'Activity'])
    result_writer.writerows(results)
```