Name: Shuyi Yu
Project Name: AirCrashPrediction
for Week 5 Cloud and API deployment: https://ancient-fortress-79930-659b171f8aab.herokuapp.com/

Batch code AirCrashPrediction.ipynb
Submission date: 9/4/2024
Submitted to: https://github.com/shuyi95/AirCrashPrediction
Internship provider: Data Glacier
See attachments below

```python
nltk.download('stopwords')

app = Flask(__name__)

# Load the saved SVC model
svc_model = joblib.load('svc_model.pkl')

# Initialize stopwords and stemmer
stop_words = set(stopwords.words('english'))
stemmer = PorterStemmer()

# Define the preprocessing
def preprocess_text(text):
    # Removing all punctuation
    text = text.translate(str.maketrans('', '', string.punctuation))
    # Converting all text to lowercase
    text = text.lower()
    # Removing stopwords from text
    text = ' '.join([word for word in text.split() if word not in stop_words])
    # Apply stemming
    text = ' '.join([stemmer.stem(word) for word in text.split()])
    return text

@app.route('/')
def home():
    return "Welcome to the AirCrashPrediction API"

@app.route('/predict', methods=['POST'])
def predict():
    data = request.get_json()

    # Preprocess the 'Report' and 'Part Failure' text
    report = preprocess_text(data['Report'].strip().lower())
    part_failure = preprocess_text(data['Part Failure'].strip().lower())

    # Combine the preprocessed text for prediction
    input_data = pd.DataFrame({
        'Report': [report],
        'Part Failure': [part_failure]
    })
```

Ln: 10 Col: 25
Ln: 13 Col: 45

```
Last login: Fri Sep  6 20:04:16 on ttys006
shuyiyu@Shuyis-Air ~ % cd /Users/shuyiyu/Desktop/AirCrashPrediction

[shuyiyu@Shuyis-Air AirCrashPrediction % source venv/bin/activate
(venv) shuyiyu@Shuyis-Air AirCrashPrediction % nano .gitignore

(venv) shuyiyu@Shuyis-Air AirCrashPrediction % git add .gitignore
git add .
git commit -m "Add .gitignore to exclude venv"

warning: in the working copy of '#/bin/Activate.ps1', CRLF will be replaced by LF the next time
Git touches it
warning: in the working copy of '#/lib/python3.11/site-packages/pip-24.1.2.dist-info/RECORD', CR
LF will be replaced by LF the next time Git touches it
warning: in the working copy of '#/lib/python3.11/site-packages/setuptools-70.3.0.dist-info/RECO
RD', CRLF will be replaced by LF the next time Git touches it
warning: in the working copy of 'another/bin/Activate.ps1', CRLF will be replaced by LF the next
 time Git touches it
warning: in the working copy of 'another/lib/python3.11/site-packages/pip-24.1.2.dist-info/RECOR
D', CRLF will be replaced by LF the next time Git touches it
warning: in the working copy of 'another/lib/python3.11/site-packages/setuptools-70.3.0.dist-inf
o/RECORD', CRLF will be replaced by LF the next time Git touches it
warning: in the working copy of 'or/bin/Activate.ps1', CRLF will be replaced by LF the next time
 Git touches it
warning: in the working copy of 'or/lib/python3.11/site-packages/pip-24.1.2.dist-info/RECORD', C
RLF will be replaced by LF the next time Git touches it
warning: in the working copy of 'or/lib/python3.11/site-packages/setuptools-70.3.0.dist-info/REC
ORD', CRLF will be replaced by LF the next time Git touches it
[main a4a50e3] Add .gitignore to exclude venv
 15101 files changed, 711854 insertions(+), 2167980 deletions(-)
 create mode 100644 #/bin/Activate.ps1
 create mode 100644 #/bin/activate
 create mode 100644 #/bin/activate.csh
 create mode 100644 #/bin/activate.fish
 create mode 100755 #/bin/pip
 create mode 100755 #/bin/pip3
 create mode 100755 #/bin/pip3.11
 create mode 120000 #/bin/python
 create mode 120000 #/bin/python3
 create mode 120000 #/bin/python3.11
 create mode 100644 #/lib/python3.11/site-packages/_distutils_hack/__init__.py
 create mode 100644 #/lib/python3.11/site-packages/_distutils_hack/__pycache__/__init__.cpython-
311.pyc
 create mode 100644 #/lib/python3.11/site-packages/_distutils_hack/__pycache__/override.cpython-
311.pyc
 create mode 100644 #/lib/python3.11/site-packages/_distutils_hack/override.py
 create mode 100644 #/lib/python3.11/site-packages/distutils-precedence.pth
 create mode 100644 #/lib/python3.11/site-packages/pip-24.1.2.dist-info/AUTHORS.txt
 rename {venv/lib/python3.12/site-packages/MarkupSafe-2.1.5.dist-info => #/lib/python3.11/site-p
ackages/pip-24.1.2.dist-info}/INSTALLER (100%)
 rename {venv/lib/python3.12/site-packages/pip-24.0.dist-info => #/lib/python3.11/site-packages/
pip-24.1.2.dist-info}/LICENSE.txt (100%)
 create mode 100644 #/lib/python3.11/site-packages/pip-24.1.2.dist-info/METADATA
 create mode 100644 #/lib/python3.11/site-packages/pip-24.1.2.dist-info/RECORD
 rename {venv/lib/python3.12/site-packages/flask-3.0.3.dist-info => #/lib/python3.11/site-packag
es/pip-24.1.2.dist-info}/REQUESTED (100%)
 rename {venv/lib/python3.12/site-packages/pip-24.0.dist-info => #/lib/python3.11/site-packages/
pip-24.1.2.dist-info}/WHEEL (100%)
 create mode 100644 #/lib/python3.11/site-packages/pip-24.1.2.dist-info/entry_points.txt
 rename {venv/lib/python3.12/site-packages/pip-24.0.dist-info => #/lib/python3.11/site-packages/
pip-24.1.2.dist-info}/top_level.txt (100%)
 create mode 100644 #/lib/python3.11/site-packages/pip/__init__.py
 rename {venv/lib/python3.12 => #/lib/python3.11}/site-packages/pip/__main__.py (100%)
```

```
remote:        Downloading slicer-0.0.8-py3-none-any.whl (15 kB)
remote:        Downloading stack_data-0.6.3-py3-none-any.whl (24 kB)
remote:        Downloading threadpoolctl-3.5.0-py3-none-any.whl (18 kB)
remote:        Downloading tornado-6.4.1-cp38-abi3-manylinux_2_5_x86_64.manylinux1_x86_64.manyli
nux_2_17_x86_64.manylinux2014_x86_64.whl (436 kB)
remote:        Downloading tqdm-4.66.5-py3-none-any.whl (78 kB)
remote:        Downloading traitlets-5.14.3-py3-none-any.whl (85 kB)
remote:        Downloading typing_extensions-4.12.2-py3-none-any.whl (37 kB)
remote:        Downloading tzdata-2024.1-py2.py3-none-any.whl (345 kB)
remote:        Downloading wcwidth-0.2.13-py2.py3-none-any.whl (34 kB)
remote:        Downloading werkzeug-3.0.4-py3-none-any.whl (227 kB)
remote:        Downloading widgetsnbextension-4.0.13-py3-none-any.whl (2.3 MB)
remote:        Installing collected packages: wcwidth, pytz, pure_eval, ptyprocess, widgetsnbext
ension, tzdata, typing_extensions, traitlets, tqdm, tornado, threadpoolctl, slicer, six, regex,
pyzmq, pyparsing, Pygments, psutil, prompt_toolkit, platformdirs, pillow, pexpect, parso, packag
ing, numpy, nest-asyncio, MarkupSafe, llvmlite, kiwisolver, jupyterlab_widgets, joblib, itsdange
rous, fonttools, executing, decorator, debugpy, cycler, cloudpickle, click, blinker, appnope, We
rkzeug, scipy, python-dateutil, numba, nltk, matplotlib-inline, jupyter_core, Jinja2, jedi, guni
corn, contourpy, comm, asttokens, stack-data, scikit-learn, pandas, matplotlib, jupyter_client,
Flask, shap, seaborn, ipython, ipywidgets, ipykernel
remote:        Successfully installed Flask-3.0.3 Jinja2-3.1.4 MarkupSafe-2.1.5 Pygments-2.18.0
Werkzeug-3.0.4 appnope-0.1.4 asttokens-2.4.1 blinker-1.8.2 click-8.1.7 cloudpickle-3.0.0 comm-0.
2.2 contourpy-1.3.0 cycler-0.12.1 debugpy-1.8.5 decorator-5.1.1 executing-2.1.0 fonttools-4.53.1
 gunicorn-23.0.0 ipykernel-6.29.5 ipython-8.27.0 ipywidgets-8.1.5 itsdangerous-2.2.0 jedi-0.19.1
 joblib-1.4.2 jupyter_client-8.6.2 jupyter_core-5.7.2 jupyterlab_widgets-3.0.13 kiwisolver-1.4.7
 llvmlite-0.40.1 matplotlib-3.9.2 matplotlib-inline-0.1.7 nest-asyncio-1.6.0 nltk-3.9.1 numba-0.
57.1 numpy-1.23.5 packaging-24.1 pandas-2.2.2 parso-0.8.4 pexpect-4.9.0 pillow-10.4.0 platformdi
rs-4.2.2 prompt_toolkit-3.0.47 psutil-6.0.0 ptyprocess-0.7.0 pure_eval-0.2.3 pyparsing-3.1.4 pyt
hon-dateutil-2.9.0.post0 pytz-2024.1 pyzmq-26.2.0 regex-2024.7.24 scikit-learn-1.5.1 scipy-1.14.
1 seaborn-0.13.2 shap-0.46.0 six-1.16.0 slicer-0.0.8 stack-data-0.6.3 threadpoolctl-3.5.0 tornad
o-6.4.1 tqdm-4.66.5 traitlets-5.14.3 typing_extensions-4.12.2 tzdata-2024.1 wcwidth-0.2.13 widge
tsnbextension-4.0.13
remote: -----> Downloading NLTK corpora...
remote:  !     'nltk.txt' not found, not downloading any corpora
remote:  !     Learn more: https://devcenter.heroku.com/articles/python-nltk
remote: -----> Discovering process types
remote:        Procfile declares types -> web
remote:
remote: -----> Compressing...
remote:        Done: 275.2M
remote: -----> Launching...
remote:        Released v3
remote:        https://ancient-fortress-79930-659b171f8aab.herokuapp.com/ deployed to Heroku
remote:
remote: This app is using the Heroku-22 stack, however a newer stack is available.
remote: To upgrade to Heroku-24, see:
remote: https://devcenter.heroku.com/articles/upgrading-to-the-latest-stack
remote:
remote: Verifying deploy... done.
To https://git.heroku.com/ancient-fortress-79930.git
 * [new branch]      main -> main
(venv) shuyiyu@Shuyis-Air AirCrashPrediction % python app.py
[nltk_data] Downloading package stopwords to
[nltk_data]     /Users/shuyiyu/nltk_data...
[nltk_data]   Package stopwords is already up-to-date!
 * Serving Flask app 'app'
 * Debug mode: on
Address already in use
Port 5000 is in use by another program. Either identify and stop that program, or start the serv
er with a different port.
On macOS, try disabling the 'AirPlay Receiver' service from System Preferences -> General -> Air
Drop & Handoff.
(venv) shuyiyu@Shuyis-Air AirCrashPrediction %
```

HEROKU

Logged In

You can close this page and return to your CLI. It should now be logged in.

Welcome to Heroku

Now that your account has been set up, here's how to get started.

Show next steps

🔍 Filter apps and pipelines

ancient-fortress-79930

Personal ⇅ ❯ ancient-fortress-79930 ☆ **Open app** **More** ⇅

GitHub ◯ shuyi95/AirCrashPrediction ⟳ main

Overview Resources Deploy Metrics Activity Access Settings

Metrics (last 24hrs) All Metrics ⊕

Response Time
1 ms

Throughput
< 1 rps

Memory
47 %

Installed add-ons ~$0.00/hour Configure Add-ons ⊕

There are no add-ons for this app

You can add add-ons to this app and they will show here. Learn more
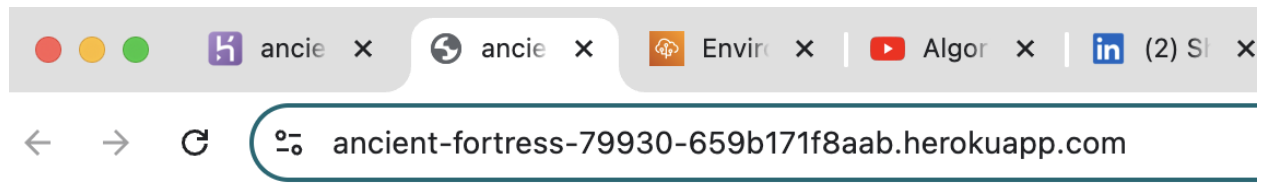
Dyno formation ~$0.010/hour Configure Dynos ⊕

This app is using **basic** dynos

web gunicorn app:app ON

Latest activity All Activity ⊕

⬆ **shuyiyu418@gmail.com:** Deployed 6f553845
Today at 8:32 PM · v3

🔨✓ **shuyiyu418@gmail.com:** Build succeeded
Today at 8:31 PM · View build log

🔧 **shuyiyu418@gmail.com:** Enable Logplex
Today at 8:27 PM · v2

🔧 **shuyiyu418@gmail.com:** Initial release
Today at 8:27 PM · v1

Overview   Resources   Deploy   Metrics   **Activity**   Access   Settings

```
-----> Building on the Heroku-22 stack
-----> Determining which buildpack to use for this app
-----> Python app detected
-----> Using Python version specified in runtime.txt
 !
 !     A Python security update is available! Upgrade as soon as possible to: python-3.11.9
 !     See: https://devcenter.heroku.com/articles/python-runtimes
 !
-----> Installing python-3.11.0
-----> Installing pip 24.0, setuptools 70.3.0 and wheel 0.43.0
-----> Installing SQLite3
-----> Installing requirements with pip
       Collecting appnope==0.1.4 (from -r requirements.txt (line 1))
         Downloading appnope-0.1.4-py2.py3-none-any.whl.metadata (908 bytes)
       Collecting asttokens==2.4.1 (from -r requirements.txt (line 2))
         Downloading asttokens-2.4.1-py2.py3-none-any.whl.metadata (5.2 kB)
       Collecting blinker==1.8.2 (from -r requirements.txt (line 3))
         Downloading blinker-1.8.2-py3-none-any.whl.metadata (1.6 kB)
       Collecting click==8.1.7 (from -r requirements.txt (line 4))
         Downloading click-8.1.7-py3-none-any.whl.metadata (3.0 kB)
       Collecting cloudpickle==3.0.0 (from -r requirements.txt (line 5))
         Downloading cloudpickle-3.0.0-py3-none-any.whl.metadata (7.0 kB)
       Collecting comm==0.2.2 (from -r requirements.txt (line 6))
         Downloading comm-0.2.2-py3-none-any.whl.metadata (3.7 kB)
```

Build finished

Welcome to the AirCrashPrediction API