

Name: Jinghao Shen
Batch code: LISUM25
Submission date: 9/29/2023

1. Use data from week 4
2. Built model as week 4
3. Use Flask to create the web app
4. Freeze requirements.txt
5. Create Procfile
6. Commit to GitHub
7. Deploy with Heroku

Data: Weather data from five different locations

```
weather_next8days.csv
1 latitude,longitude,datetime,temp,humidity,precipprob,windspeed,sealevelpressure,cloudcover,visibility,solarradiation,icon
2 35.684,139.809,2023-09-25,73.2,63.8,14.3,16.3,1019.6,65.8,9,145.2,partly-cloudy-day
3 35.684,139.809,2023-09-26,77.4,56.8,14.3,12.8,1015.5,64.9,15,220.4,partly-cloudy-day
4 35.684,139.809,2023-09-27,78.9,57.9,9.5,11,1012.5,68.4,15,171.6,partly-cloudy-day
5 35.684,139.809,2023-09-28,83.5,56.38.1,15.2,1007.8,16.6,15,223.8,clear-day
6 35.684,139.809,2023-09-29,78.2,57.3,33.3,13,1012.4,84.9,15,110.8,partly-cloudy-day
7 35.684,139.809,2023-09-30,79.8,60.5,57.1,11,1010.1,80.8,15,147.2,rain
8 35.684,139.809,2023-10-01,77.4,66.3,57.1,11.2,1007.6,89.5,14.8,134.3,rain
9 35.684,139.809,2023-10-02,67.9,62.7,42.9,14.1,1011.7,58.8,13.3,50.9,partly-cloudy-day
10 40.715,-74.007,2023-09-25,62.2,89,100,15,1018.4,100,2.8,7.9,rain
11 40.715,-74.007,2023-09-26,59.9,78.9,39,16.1,1027,83,8.1,32.1,partly-cloudy-day
12 40.715,-74.007,2023-09-27,59.8,67.9,13,11.4,1026.5,53.8,10.1,230.3,partly-cloudy-day
13 40.715,-74.007,2023-09-28,61.6,73.6,19,12.1,1024.6,56.6,14.6,198,partly-cloudy-day
14 40.715,-74.007,2023-09-29,62.7,76.3,26,11.9,1024.6,69.3,15,222.6,partly-cloudy-day
15 40.715,-74.007,2023-09-30,63.7,72.26,12.8,1026.1,42,15,227.6,partly-cloudy-day
16 40.715,-74.007,2023-10-01,64.6,69.1,15,11.4,1023.3,31.8,15,222.4,partly-cloudy-day
17 40.715,-74.007,2023-10-02,67.8,67.1,14,10.3,1016.5,31.4,15,198.7,partly-cloudy-day
18 51.506,-0.127,2023-09-25,64.6,71,0,12.7,1018.5,84.6,11.3,168,partly-cloudy-day
19 51.506,-0.127,2023-09-26,62.9,83.7,42.9,10.7,1016.3,88.7,15,154,partly-cloudy-day
20 51.506,-0.127,2023-09-27,60.1,80.8,52.4,14.1,1013.7,91.2,15,64.4,rain
21 51.506,-0.127,2023-09-28,59.1,72.4,66.7,13.2,1014.4,86.3,15,143.1,rain
22 51.506,-0.127,2023-09-29,61.4,73.1,66.7,9.4,1019.4,77.3,15,166,rain
23 51.506,-0.127,2023-09-30,60.7,60.9,19,4.3,1024.8,90.3,15,86,cloudy
24 51.506,-0.127,2023-10-01,66.3,65.9,19,13,1015,78,15,131,partly-cloudy-day
25 51.506,-0.127,2023-10-02,61.3,62.1,19,12.8,1018.4,35.8,15,148.1,partly-cloudy-day
26 39.907,116.388,2023-09-25,64.8,72.5,0,6.7,1015.3,60.6,9.5,128,partly-cloudy-day
27 39.907,116.388,2023-09-26,71.64,0,7.2,1013.6,86,15,136.3,partly-cloudy-day
28 39.907,116.388,2023-09-27,75.3,41.2,0,11.6,1012.8,52,15,184.8,partly-cloudy-day
29 39.907,116.388,2023-09-28,72.6,28.2,23.8,9.4,1015.5,56.9,15,204.5,partly-cloudy-day
30 39.907,116.388,2023-09-29,72.8,36.6,57.1,17,1013,33.3,14.9,222,rain
31 39.907,116.388,2023-09-30,71.1,29.1,0,9.4,1017.1,1.6,15,221.4,clear-day
32 39.907,116.388,2023-10-01,71.6,31.3,4.8,8.7,1017.8,17.4,15,214.3,clear-day
33 39.907,116.388,2023-10-02,67.8,51.1,19,16.8,1016.7,87.6,15,121.6,partly-cloudy-day
34 37.777,-122.42,2023-09-25,62.6,82.5,48,13.9,1018.2,58.3,10.1,206,rain
35 37.777,-122.42,2023-09-26,63.8,84.6,48,17.2,1021.3,38.4,10.1,220,rain
36 37.777,-122.42,2023-09-27,62.6,80.7,1,19.5,1016,11.4,10.3,226.3,clear-day
37 37.777,-122.42,2023-09-28,62,75.7,0,15.4,1011.3,9.3,15,227.8,clear-day
38 37.777,-122.42,2023-09-29,61.8,73.5,0,17.2,1007.3,17.8,15,205.2,clear-day
```

Build log:

Activity Feed > Build Log

ID 0f149207-a4ff-49c4-a26f-531f1e98c02f

```
Downloading pandas==2.1.1-cp311-cp311-manylinux_2_17_x86_64_manylinux2014_x86_64.whl.metadata (10 KB)
Collecting python-dateutil==2.8.2 (from -r requirements.txt (line 13))
  Downloading python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
Collecting pytz==2023.3.post1 (from -r requirements.txt (line 14))
  Obtaining dependency information for pytz==2023.3.post1 from
https://files.pythonhosted.org/packages/32/4d/aaf7eff5deb402fd9a24a1449a8119f00d74ae9c2efa79f8ef9994261fc2/pytz-2023.3.post1-py2.py3-none-any.whl.metadata
  Downloading pytz-2023.3.post1-py2.py3-none-any.whl.metadata (22 KB)
Collecting scikit-learn==1.3.1 (from -r requirements.txt (line 15))
  Obtaining dependency information for scikit-learn==1.3.1 from
https://files.pythonhosted.org/packages/8f/87/5969092159207f583481ad80a03f09e2d4afebd197f4530ca4e906c947e/scikit_learn-1.3.1-cp311-cp311-
manylinux_2_17_x86_64_manylinux2014_x86_64.whl.metadata
  Downloading scikit_learn-1.3.1-cp311-cp311-manylinux_2_17_x86_64_manylinux2014_x86_64.whl.metadata (11 kB)
Collecting scipy==1.11.3 (from -r requirements.txt (line 16))
  Obtaining dependency information for scipy==1.11.3 from
https://files.pythonhosted.org/packages/ef/1b/7538792254aec6850657d5b940fd05fe60582af829ffe40d6c054f065f34/scipy-1.11.3-cp311-cp311-
manylinux_2_17_x86_64_manylinux2014_x86_64.whl.metadata
  Downloading scipy-1.11.3-cp311-cp311-manylinux_2_17_x86_64_manylinux2014_x86_64.whl.metadata (60 kB)
Collecting six==1.16.0 (from -r requirements.txt (line 17))
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Collecting threadpoolctl==3.2.0 (from -r requirements.txt (line 18))
  Obtaining dependency information for threadpoolctl==3.2.0 from
https://files.pythonhosted.org/packages/81/12/fd4dea011af9d69e1cad05c75f3f7282cdcbeac9b712eea58ca779a72865/threadpoolctl-3.2.0-py3-none-any.whl.metadata
  Downloading threadpoolctl-3.2.0-py3-none-any.whl.metadata (10.0 kB)
Collecting tzdata==2023.3 (from -r requirements.txt (line 19))
  Downloading tzdata-2023.3-py2.py3-none-any.whl (341 kB)
Collecting Werkzeug==2.3.7 (from -r requirements.txt (line 20))
  Obtaining dependency information for Werkzeug==2.3.7 from
https://files.pythonhosted.org/packages/9b/59/a7c32e3d8d0e546a206e0552a2c04444544f15c1da4a01df8938d20c6ffc/werkzeug-2.3.7-py3-none-any.whl.metadata
  Downloading werkzeug-2.3.7-py3-none-any.whl.metadata (4.1 kB)
Download click-8.1.7-py3-none-any.whl (97 kB)
Download flask-2.3.3-py3-none-any.whl (96 kB)
Download gunicorn-21.2.0-py3-none-any.whl (80 kB)
Download joblib-1.3.2-py3-none-any.whl (302 kB)
Download MarkupSafe-2.1.3-cp311-cp311-manylinux_2_17_x86_64_manylinux2014_x86_64.whl (28 kB)
Download numpy-1.26.0-cp311-cp311-manylinux_2_17_x86_64_manylinux2014_x86_64.whl (18.2 MB)
Download pandas-2.1.1-cp311-cp311-manylinux_2_17_x86_64_manylinux2014_x86_64.whl (12.2 MB)
Download pytz-2023.3.post1-py2.py3-none-any.whl (502 kB)
Download scikit_learn-1.3.1-cp311-cp311-manylinux_2_17_x86_64_manylinux2014_x86_64.whl (10.9 MB)
Download scipy-1.11.3-cp311-cp311-manylinux_2_17_x86_64_manylinux2014_x86_64.whl (36.4 MB)
Download threadpoolctl-3.2.0-py3-none-any.whl (15 kB)
Download werkzeug-2.3.7-py3-none-any.whl (242 kB)
Installing collected packages: pytz, tzdata, threadpoolctl, six, packaging, numpy, MarkupSafe, joblib, itsdangerous, colorama, click, blinker, Werkzeug, scipy, python-
dateutil, Jinja2, gunicorn, scikit-learn, pandas, Flask
Successfully installed Flask-2.3.3 Jinja2-3.1.2 MarkupSafe-2.1.3 Werkzeug-2.3.7 blinker-1.6.2 click-8.1.7 colorama-0.4.6 gunicorn-21.2.0 itsdangerous-2.1.2 joblib-1.3.2
numpy-1.26.0 packaging-23.1 pandas-2.1.1 python-dateutil-2.8.2 pytz-2023.3.post1 scikit-learn-1.3.1 scipy-1.11.3 six-1.16.0 threadpoolctl-3.2.0 tzdata-2023.3
-----> Discovering process types
Procfile declares types -> web
-----> Compressing...
Done: 124.4M
-----> Launching...
Released v7
https://heroku-demo-app-1-41df3a1e10c2.herokuapp.com/ deployed to Heroku
```

Build finished

Web app:


<https://heroku-demo-app-1-41df3a1e10c2.herokuapp.com/>

heroku-demo-app-1-41df3a1e10c2.herokuapp.com/predict

Predict Rain Probability

| |
|--------------------|
| Latitude |
| Longitude |
| Temperature (in F) |
| Humidity |
| Wind Speed |
| Pressure |
| Cloud Cover |
| Visibility |
| Solar Radiation |
| Predict |

Rain Probability should be 34.67%

 **Data Glacier**
Your Deep Learning Partner