visualcrossing

meteostat

WORLD® WEATHER ONLINE

WU WEATHER UNDERGROUND

OpenWeather

METEOROLOGICAL DEPARTMENT

API

- lat, lon
- Source name
- Start date to End date

- Temp, Rh (Historical)

Train model

function

Lat-lon To grid

Pertain-model

Result
Predicted temp, rh

User input location
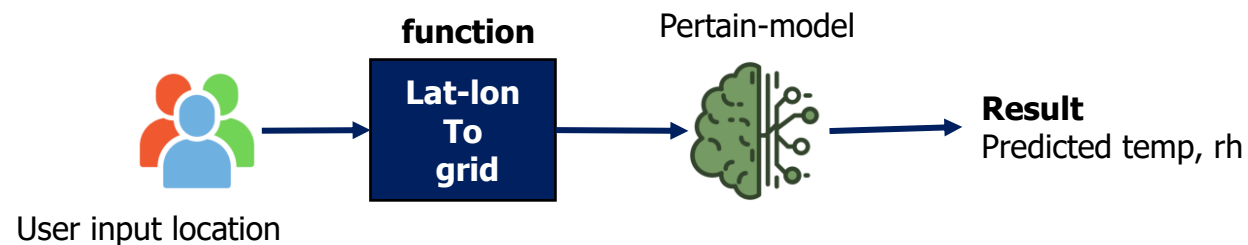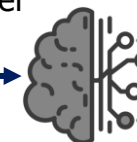
My code: https://colab.research.google.com/drive/1jN9PQjwhKO2xiZcnYNwovau26v-ojEyg?usp=sharing
Dataset : https://drive.google.com/drive/folders/1IK36-94dYoYeX2K1xfx1qqHDFZ_o3yKU?usp=sharing

visualcrossing

	date	time	temperature
0	2022-01-01	00:00:00	25.0
1	2022-01-01	01:00:00	24.7
2	2022-01-01	02:00:00	25.0
3	2022-01-01	03:00:00	23.0
4	2022-01-01	04:00:00	23.1
...	...	...	...
739	2022-01-31	19:00:00	29.3
740	2022-01-31	20:00:00	29.0
741	2022-01-31	21:00:00	28.0
742	2022-01-31	22:00:00	27.9
743	2022-01-31	23:00:00	27.0

744 rows × 3 columns

meteostat

	idx	datetime	temp	rh
0	0	2021-01-01 00:00:00	22.0	65.0
1	1	2021-01-01 01:00:00	21.2	67.0
2	2	2021-01-01 02:00:00	21.0	69.0
3	3	2021-01-01 03:00:00	20.0	64.0
4	4	2021-01-01 04:00:00	19.0	68.0
...	...	...	...	...
355	355	2021-01-15 19:00:00	27.0	51.0
356	356	2021-01-15 20:00:00	26.0	54.0
357	357	2021-01-15 21:00:00	25.0	57.0
358	358	2021-01-15 22:00:00	23.6	64.0
359	359	2021-01-15 23:00:00	23.0	65.0

360 rows × 4 columns

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	date	time	temp	rh
0	2021-01-01	0	23	46
1	2021-01-01	100	22	47
2	2021-01-01	200	22	48
3	2021-01-01	300	21	50
4	2021-01-01	400	21	51
...	...	...	...	...
355	2021-01-15	1900	35	38
356	2021-01-15	2000	34	43
357	2021-01-15	2100	33	47
358	2021-01-15	2200	31	51
359	2021-01-15	2300	30	55

360 rows × 4 columns

WEATHER UNDERGROUND

	obsTimeUtc	obsTimeLocal	tempAvg	humidityAvg
0	2020-12-31T17:58:04Z	2021-01-01 00:58:04	24	63
1	2020-12-31T18:58:15Z	2021-01-01 01:58:15	24	62
2	2020-12-31T19:58:12Z	2021-01-01 02:58:12	23	63
3	2020-12-31T20:58:09Z	2021-01-01 03:58:09	23	64
4	2020-12-31T21:58:07Z	2021-01-01 04:58:07	23	64
...	...	...	...	...
348	2021-01-15T12:59:52Z	2021-01-15 19:59:52	27	55
349	2021-01-15T13:59:55Z	2021-01-15 20:59:55	26	61
350	2021-01-15T14:59:51Z	2021-01-15 21:59:51	26	64
351	2021-01-15T15:59:49Z	2021-01-15 22:59:49	25	66
352	2021-01-15T16:59:46Z	2021-01-15 23:59:46	25	68

353 rows × 4 columns

OpenWeather

	datetime	humidity	temp
0	1648252800	41	309.20
1	1648256400	41	309.20
2	1648260000	41	309.20
3	1648263600	73	301.79
4	1648267200	41	309.20
...	...	...	...
115	1648666800	94	300.10
116	1648670400	94	300.10
117	1648674000	94	300.10
118	1648677600	94	300.10
119	1648681200	94	300.10

120 rows × 3 columns

API	Forecast Data	Historical Data	Current/Real-Time Weather	Pricing	Number of Free Requests
OpenWeatherMap	Yes	No	Yes	Free	Unlimited
Weatherbit	Yes	No	Yes	Freemium	150 per day
AccuWeather	Yes	No	Yes	Free Trial	50 per day
Dark Sky	Yes	Yes	No	Freemium	100 per month
Weather2020	Yes	No	No	Freemium	1000/day
Tomorrow.io (formerly ClimaCell)	Yes	No	Yes	Freemium	100/day
Visual Crossing	Yes	Yes	Yes	Freemium	500/month
AerisWeather	Yes	Yes	Yes	Freemium	100/day

Weather by Latitude and Longitude

- OpenWeatherMap
- Weatherbit
- Dark Sky

visual**crossing**

Input
- Lat, lon
- Start date to End date

visual**crossing**

Forecast data
- Temp, Rh
- Hourly
- Forecast (T to T+14)

Historical data
- Temp, Rh
- Hourly

Meteostat
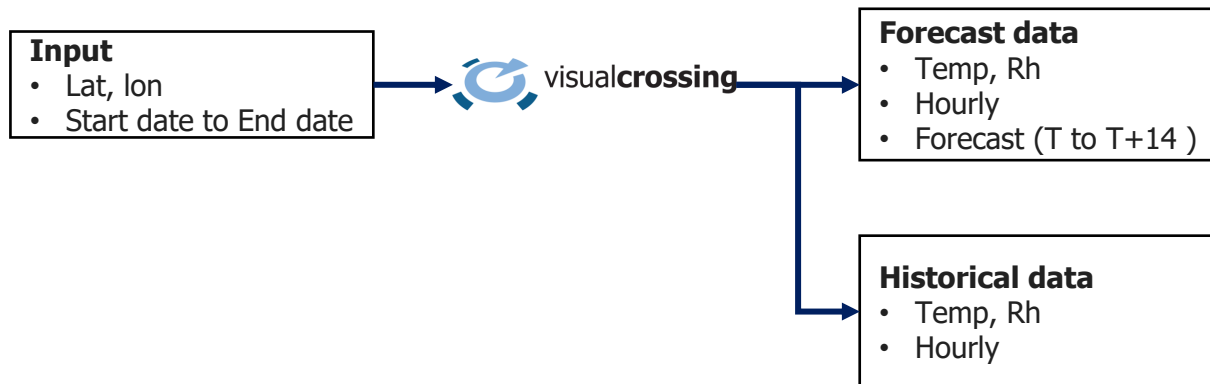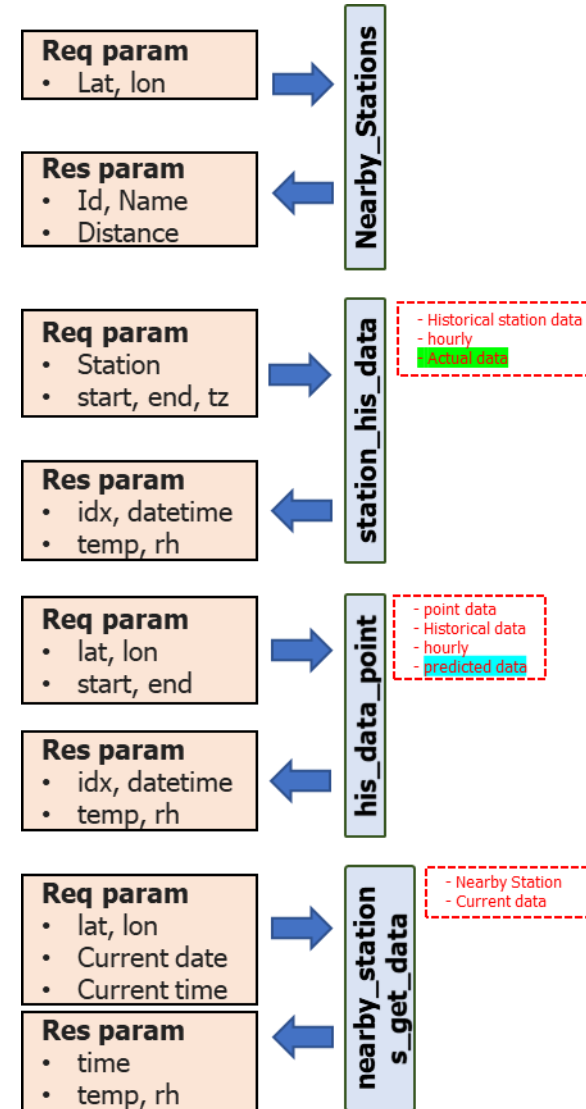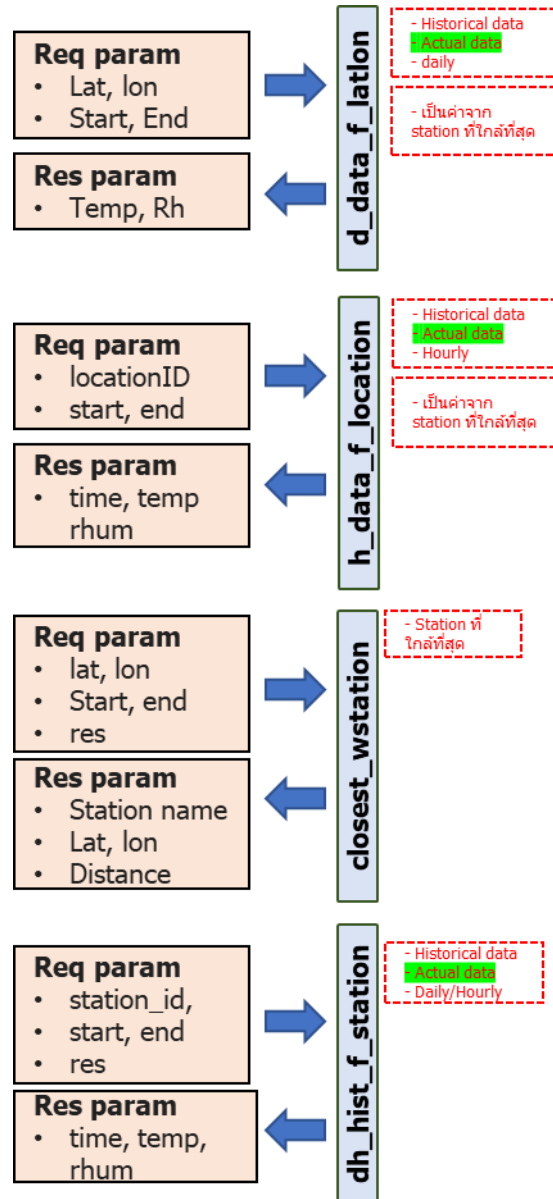
Script	Function name	Req param	Res. param	Desc.
helper_func	h_data_f_location (historical data from location)	• locationID • start, end	• time, temp, dwpt, rhum, prcp, wdir, wspd, pres, coco	• Historical data, • Hourly • Get data from locationID • Actual data
	d_data_f_latlon (daily data from lat-lon)	• lat, lon • start, end	• date, tavg, tmin, tmax, prcp, wdir, wspd, pres	• Historical data • daily • Get data from lat-lon • Actual data
	closest_wstation (closest weather station)	• lat, lon • start_date, end_date • res	• station name • Lat-lon • Distance	• closest weather station • daily, hourly
	dh_hist_f_station (daily/hourly from station)	• station_id, • start, end • res	• time, temp, rhum	• Historical data • Daily/Hourly • Get data from station_id • Actual data
nearby_station	Nearby_Stations (nearby stations)	• lat, lon	• Id, Name • Distance	• 10 nearby Stations
station_his_data	station_his_data (historical station data)	• Station • start, end • tz	• idx, datetime • temp, rh	• Historical station hourly data • Get data from station • Actual data
his_data_point	his_data_point (historical data point)	• lat, lon • start, end • api_key	• idx, datetime • temp, rh	• point data, • Historical hourly data • predicted data
nearby_stations_get_data	nearby_stations_get_data (nearby stations to get data)	• lat, lon • apikey, • current_date, • current_time	• time • temp, rh	• Nearby Station • Current data • Actual data

Input
- Lat, lon
- Date

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Historical data
- Temp, Rh
- Hourly

Input
- Lat, lon

→ near Location →

- stationName
- stationId
- obsType
- Lat, lon
- distanceKm

	stationName	stationId	obsType	lat	lon	distanceKm
0	VTBD	VTBD	METAR	13.917	100.600	8.19
1	48419	48419	SYNOPTIC	14.100	100.617	12.34

Input
- Lat, lon

→ location_point →

- Lat, lon
- City
- locId
- pwsId

Error

	lat	lon	city	pwsId
0	13.92	100.60	Bangkok	IBANGKOK239
1	14.07	100.60	Khlong Luang	IKHLON1
2	13.74	100.56	Bangkok	IBANGK74
3	13.64	100.59	Phra Pradaeng	IMUEAN142
4	13.67	100.63	Bangkok	IBANGK103
5	13.69	100.75	Bang Phli	IBANGK115
6	13.55	100.62	Mueang Samut Prakan	IMUEAN213
7	14.56	100.72	Tha Ruea	ITHARU1
8	0.00	0.00	None	None
9	14.02	99.98	Kamphaeng Saen	IKAMPHAE2

Input
- pwsId
- Date

→ Get value →

actual data
- Temp, Rh
- Hourly

{'observations': [{'stationID': 'IBANGK74', 'tz': 'Asia/Bangkok', 'obsTimeUtc': '2020-12-31
13.743185 100.561906
(24, 4)

|	obsTimeUtc	obsTimeLocal	tempAvg	humidityAvg
0	2020-12-31T17:58:04Z	2021-01-01 00:58:04	24	63
1	2020-12-31T18:58:15Z	2021-01-01 01:58:15	24	62
2	2020-12-31T19:58:12Z	2021-01-01 02:58:12	23	63
3	2020-12-31T20:58:09Z	2021-01-01 03:58:09	23	64
4	2020-12-31T21:58:07Z	2021-01-01 04:58:07	23	64

Current weather data

Access current weather data for any location on Earth including over 200,000 cities! We collect and process weather data from different sources such as global and local weather models, satellites, radars and a vast network of weather stations. Data is available in JSON, XML, or HTML format.

Historical weather data

To learn about how get access to historical weather data for the **previous 5 days**, please use this section of the documentation.

Input
- None

Current data
*actual data from stations
- Temp, Rh
- 3 Hourly

	datetime	sname_en	sname_th	Lat	Lon	temp	rh
0	31/3/2022 16:54:44	แม่ฮ่องสอน	MAE HONG SON	19.2990	97.9758	25.0	76.0
1	31/3/2022 16:54:44	แม่สะเรียง	MAE SARIANG	18.1667	97.9333	23.0	87.0
2	31/3/2022 16:54:44	เชียงราย	CHIANG RAI	19.9614	99.8814	23.3	95.0
3	31/3/2022 16:54:44	เชียงราย สกษ.	CHAING RAI AGROMET.	19.8708	99.7828	22.8	95.0
4	31/3/2022 16:54:44	พะเยา	PHAYAO	19.1333	99.9000	23.5	96.0
...	...	...	...	...	...	...	...
123	31/3/2022 16:54:44	หาดใหญ่	HAT YAI AIRPORT	6.9167	100.4333	25.2	97.0
124	31/3/2022 16:54:44	สตูล	SATUN	6.6500	100.0833	24.7	97.0
125	31/3/2022 16:54:44	ปัตตานี	PATTANI AIRPORT	6.7833	101.1500	25.1	92.0
126	31/3/2022 16:54:44	ยะลา สกษ.	YALA AGROMET.	6.5167	101.2833	24.9	97.0
127	31/3/2022 16:54:44	นราธิวาส	NARATHIWAT	6.4167	101.8167	25.5	88.0

128 rows × 7 columns

Test site