

Spadas Guideline

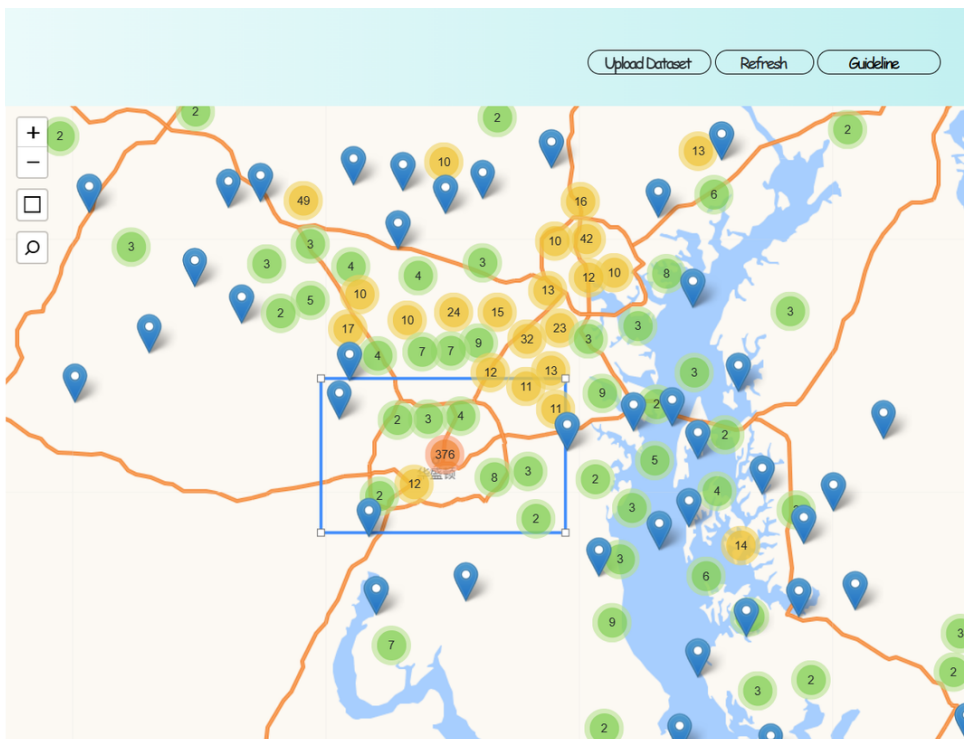
Introduction

- This is a demo system designed to support Fast and Unified Spatial Dataset Search. It supports two methods for dataset search (Range Query and Top-k Exemplar Dataset Search), three distance measures (Haus, IA, and GBO), and three dataset augmentation operations (Join, Union, and Union Range Query).
- Through the interactive interface of the map on the right and the results panel on the left, users can perform various operations on the datasets and receive feedback. The system currently includes the MultiOpen dataset. Below is the operational guide for the system functionalities.

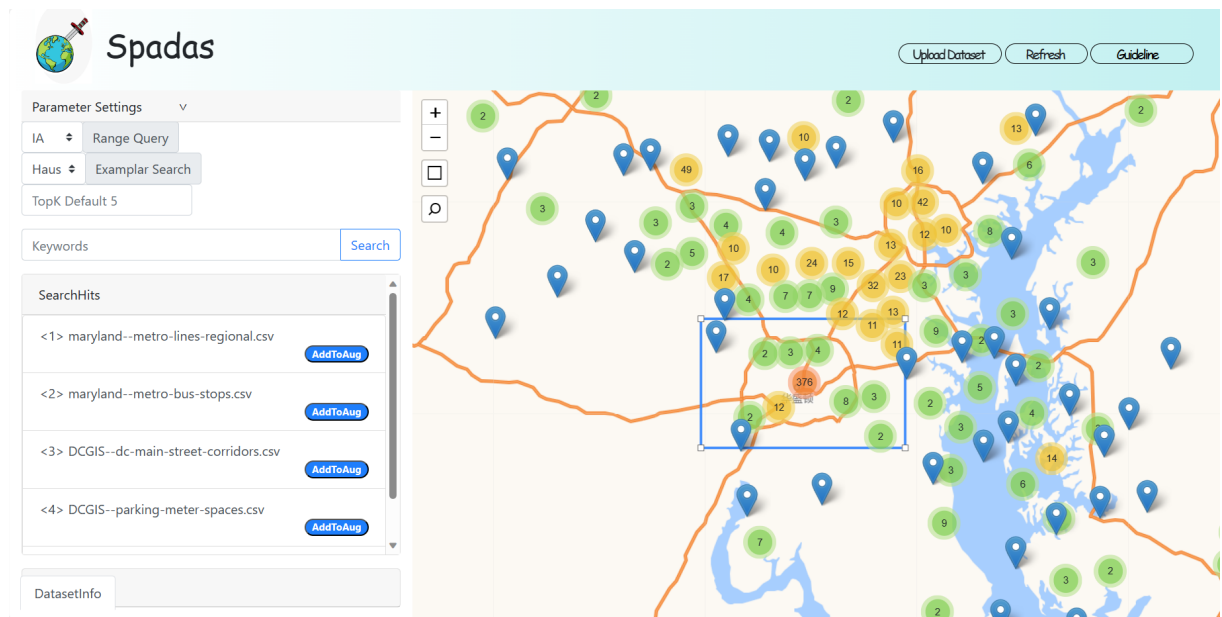
Functions

- **Range Query**

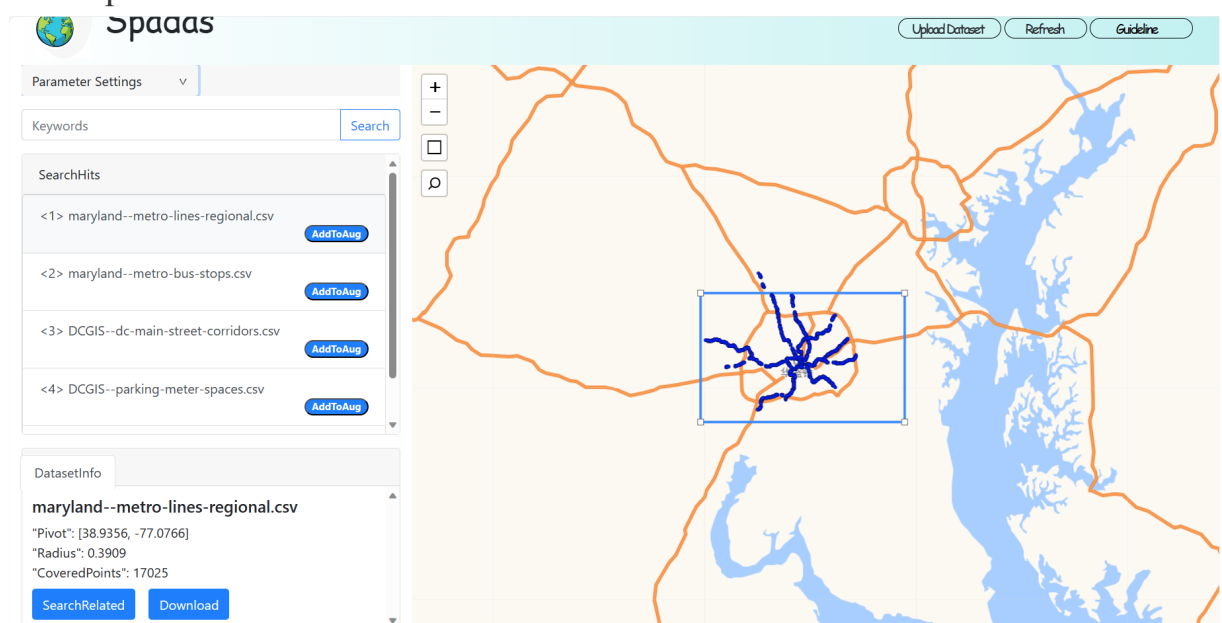
1. Click on **the rectangular control** in the top left corner of the map and drag the mouse to draw a rectangular box on the map.



2. Click on the **magnifying glass control** in the top left corner of the map to perform a range query. The results will be displayed in the left sidebar.



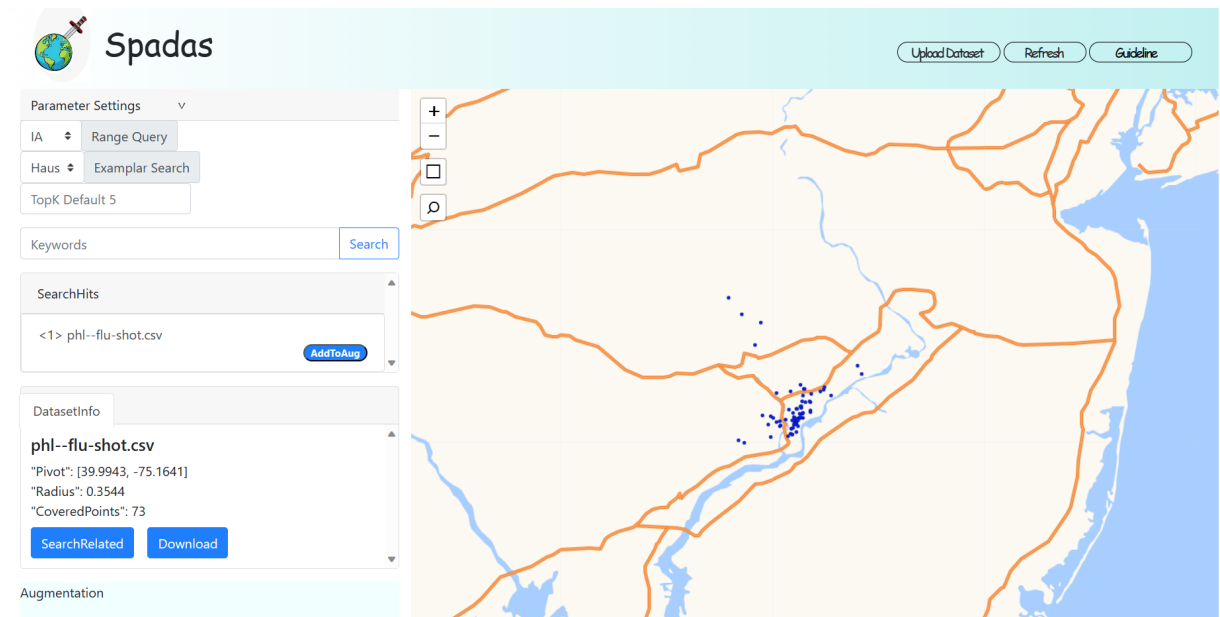
3. Selecting the dataset from the left sidebar, you can view dataset-related information in the lower left corner and visualize the dataset's distribution on the map.



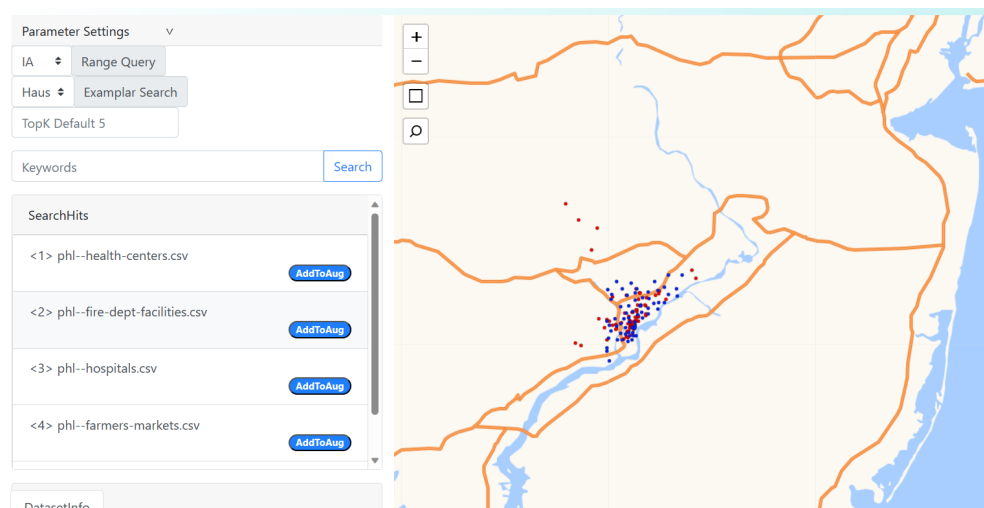
4. Select the corresponding parameter in the settings panel and configure the metric method you want for conducting the search.

● Exemplar Dataset Search

1. Click on the dataset in the "SearchHits" column on the left to view the relevant information and distribution of that dataset.



2. Click the "SearchRelated" button to perform an exemplar search. The search results will be displayed in the "SearchHits" column. Select one of the results and view its relationship with the query dataset on the map.



3. Select the corresponding parameter in the settings panel and configure the metric method you want for conducting the search.

Parameter Settings ▾

IA ▾

Range Query

Haus ▾

Exemplar Search

Haus ▾

Default 5 ▾

IA

GBO

Keywords

Search

● Dataset Join / Union

1. Select the dataset you want to augment, and **click the "AddToAug" button** corresponding to each of them to add them to the "Augmentation" candidate box.

Augmentation

phl--flu-shot.csv

phl--health-centers.csv

Union

Join

URQ

Empty

Preview

2. Select the **"Union" or "Join" button** below to perform the augmentation operation. **Click the "Preview" button** to preview the augmented results, with data from different sources presented in different colors.

<2> phl--fire-dept-facilities.csv

<3> phl--hospitals.csv

<4> phl--farmers-markets.csv

<5> phl--pharmacies.csv

DatasetInfo

phl--health-centers.csv

"Pivot": [39.9790, -75.1617]

"Radius": 0.1221

"CoveredPoints": 55

SearchRelated

Download

Augmentation

phl--flu-shot.csv

phl--health-centers.csv

Union

Join

URQ

Empty

Preview

40.0269522252895	-75.1324923722946
40.0426844884144	-75.0634044942157
39.9602126664367	-75.1545427586926
39.9823926912333	-75.1337227227011
40.0119349506672	-75.1104122988765
39.9289321170977	-75.1685763413804
39.9647642630161	-75.1692562807576
38.8650700299818	-77.06840020858915
38.82294776555217	-77.1347123228403
38.83844777211455	-77.11225231358296
38.837077772014936	-77.09771231595631
38.82568776463003	-77.13101232383872
38.839347772696335	-77.10195230808063
38.83750777144744	-77.14200341423044

The interface displays a table of datasets with columns for longitude (lng), latitude (lat), and distance (km). Each row represents a dataset, and there is an "AddToAug" button for each. The datasets listed are:

- phl--fire-dept-facilities.csv
- phl--farmers-markets.csv
- phl--flu-shot.csv
- phl--health-centers.csv

Below the table, there are buttons for "Union", "Join", "URQ", "Empty", and "Preview".

● Dataset Union Range Query

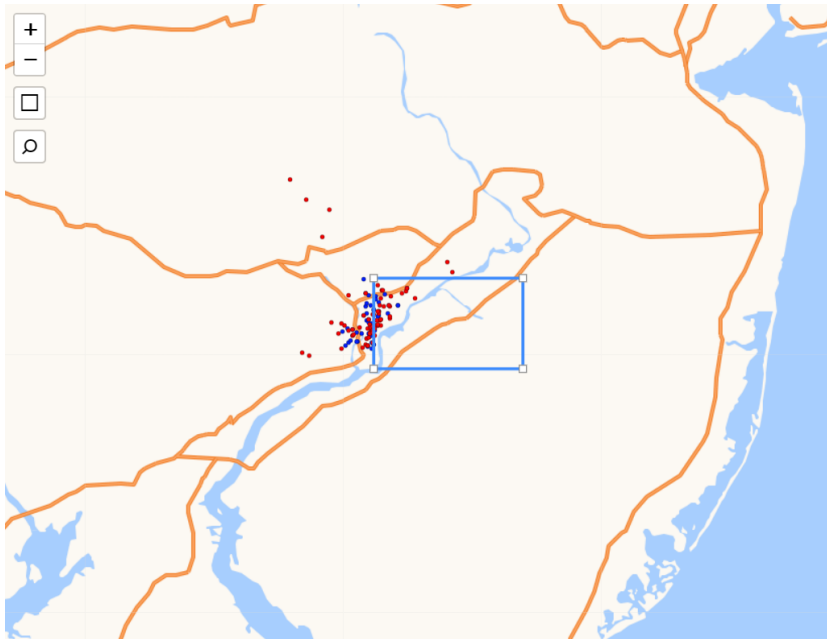
1. Select the dataset you want to augment, and click the "AddToAug" button corresponding to each of them to add them to the "Augmentation" candidate box.

The "Augmentation" candidate box shows the following datasets:

- phl--flu-shot.csv
- phl--health-centers.csv

Below the box, there are buttons for "Union", "Join", "URQ", "Empty", and "Preview".

2. Click on the rectangular control in the top left corner of the map and drag the mouse to draw a rectangular box on the map.



3. Select the "URQ" button below to perform the augmentation operation. Click the "Preview" button to preview the augmented results, with data from different sources presented in different colors.

<2> phl--fire-dept-facilities.csv

<3> phl--hospitals.csv

<4> phl--farmers-markets.csv

<5> phl--pharmacies.csv

DatasetInfo

phl--health-centers.csv

"Pivot": [39.9790, -75.1617]

"Radius": 0.1221

"CoveredPoints": 55

SearchRelated

Download

Augmentation

phl--flu-shot.csv

phl--health-centers.csv

39.9704789601716	-75.1604875437882
39.9214016323698	-75.2403887220926
39.9697599187997	-75.1316998225823
39.9956453309287	-75.1394745413267
40.0119349506672	-75.1104122988765
40.0269522252895	-75.1324923722946
39.9289521249449	-75.1688269922764
40.00474114301418	-75.15221088607652
40.01889342196215	-75.13694858458679
39.980675861948455	-75.14877436141073
39.970508676492564	-75.14998268626174
40.01390243075815	-75.08635032219144
40.04855869695632	-75.06134464527597

Union

Join

URQ

Empty

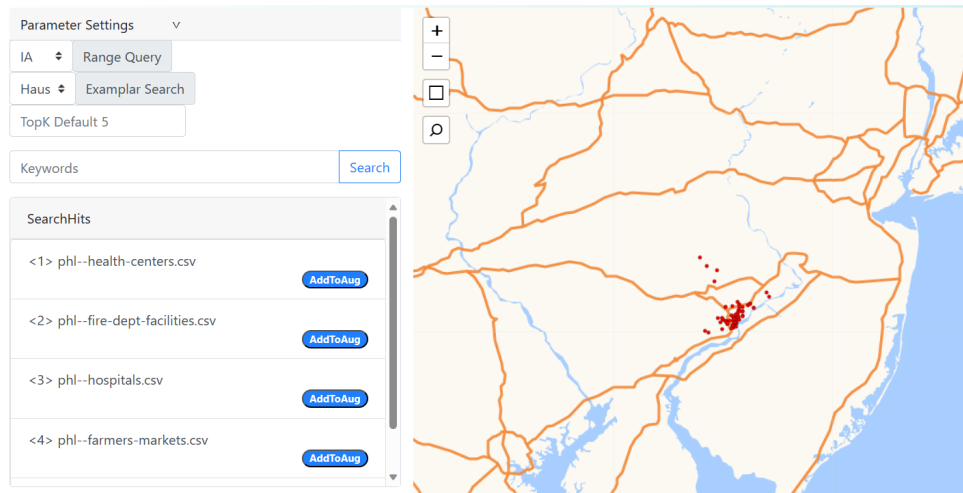
Preview

• Upload Dataset & Search

1. Click the "Upload Dataset" button in the top right corner, and select a CSV

file from your local machine to upload (please note that the file must contain data with "lat" and "lng" fields).

2. You can view the distribution of the uploaded dataset on the map and see the results of the exemplar search for the uploaded dataset in the "SearchHits" panel.



● Empty & Refresh

Whenever you encounter difficulties with the operations, click the "Empty" button in the bottom left corner or the "Refresh" button in the top right corner to clear the map and previous actions.