API Reference

FastAPI

API Version: 0.1.0

Before consuming the endpoints set the variable MODEL_DIRECTORY in .env to a directory that contains model checkpoints (.ckpt). Models outside of this directory can't be used for inference via endpoints.

Command for running the server:

(venv) username@pc:~/lumen-geoguesser$ python3 src/app/main.py

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API

1. AVAILABLE MODELS

All available models from the MODEL_DIRECTORY directory defined in the .env file

1.1 GET /models

Get Models

Returns names of all available models on the server. You must use model names for all POST request predictions. Model name is a stem of the model checkpoint, e.g. model with filename my_model.ckpt has the name my_model. Models are fetched from the directory MODEL_DIRECTORY which is defined in the .env file. Only models with the extension MODEL_EXTENSION are fetched. Model names will be returned instead of the model filenames.

REQUEST

No request parameters

RESPONSE

STATUS CODE - 200: Successful Response

RESPONSE MODEL - application/json

2. PREDICT

Endpoints used for predicting latitude and longitudes for given data.Curl example for multiple images:

curl -i \-F "images=@data/raw/images/train/e788b3d1-9d20-466c-9dee-97982f0f9a3b/0.jpg" \-F "images=@data/raw/images/train/e788b3d1-9d20-466c-9dee-97982f0f9a3b/0.jpg" \http://0.0.0.0:8090/model/Golf_76__haversine_0.0098__val_acc_0.47__val_loss_1.98__05-04-03-36-32/predict-images

2.1 POST /model/{model_name}/predict-images

Predict Images

Infers latitude and longitude for multiple images. If you have a group of images where each image represents one cardinal direction (north, east, south, and west) ("0.jpg", ... , "270.jpg") you should use the `/model/{model_name}/predict-cardinal-images endpoint

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*model_name	string	

FORM DATA PARAMETERS

NAME	TYPE	DESCRIPTION
images	array of string	

RESPONSE

STATUS CODE - 200: Successful Response

RESPONSE MODEL - application/json

NAME	TYPE	DESCRIPTION
ARRAY OF OBJECT WITH BELOW STRUCTURE		
latitude*	number	
longitude*	number	

STATUS CODE - 422: Validation Error

RESPONSE MODEL - application/json

NAME	TYPE	DESCRIPTION
OBJECT WITH BELOW STRUCTURE		
detail	array	
loc*	array	
ANY:OF	object	
prop0	string	
prop1	integer	

NAME	TYPE	DESCRIPTION
msg*	string	
type*	string	

2.2 POST /model/{model_name}/predict-directory

Predict Dataset

Infers latitude and longitude for all images in the directory (dataset_directory_path) which contains subdirectories (uuid) with images for each cardinal direction. This structure is the same as the structure of the original dataset. Exactly 4 images must be sent per subdirectory and each image filename must match image's cardinal direction ("0.jpg", "90.jpg", "180.jpg", "270.jpg"). E.g northen image should be named "0.jpg". If csv_filename is provided, results will also be saved to a .csv file.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*model_name	string	

REQUEST BODY - application/json

NAME	TYPE	DESCRIPTION
csv_filename	string	
dataset_directory_path*	string	

RESPONSE

STATUS CODE - 200: Successful Response

RESPONSE MODEL - application/json

NAME	TYPE	DESCRIPTION
ARRAY OF OBJECT WITH BELOW STRUCTURE		
uuid*	string	
latitude*	number	
longitude*	number	

STATUS CODE - 422: Validation Error

RESPONSE MODEL - application/json

NAME	TYPE	DESCRIPTION
OBJECT WITH BELOW STRUCTURE		
detail	array	
loc*	array	
ANY:OF	object	
prop0	string	
prop1	integer	
msg*	string	
type*	string	

2.3 POST /model/{model_name}/predict-cardinal-images

Predict Cardinal Images

Infers latitude and longitude for a single location which is defined by exactly 4 images, each for one cardinal direction. Exactly 4 images must be sent and each image filename must match image's cardinal direction ("0.jpg", "90.jpg", "180.jpg", "270.jpg"). E.g northen image should be named "0.jpg". This structure is the same as the structure of the original dataset.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*model_name	string	

FORM DATA PARAMETERS

NAME	TYPE	DESCRIPTION
images	array of string	

RESPONSE

STATUS CODE - 200: Successful Response

RESPONSE MODEL - application/json

NAME	TYPE	DESCRIPTION
ARRAY OF OBJECT WITH BELOW STRUCTURE		
latitude*	number	
longitude*	number	

STATUS CODE - 422: Validation Error

RESPONSE MODEL - application/json

NAME	TYPE	DESCRIPTION
OBJECT WITH BELOW STRUCTURE		
detail	array	
loc*	array	
ANY:OF	object	
prop0	string	
prop1	integer	
msg*	string	
type*	string	